

Edge not being separate from the Surface of the Tongue. When we examine them in a sound Tongue, with a good Microscope, we find their convex Sides full of small Holes or Pores, like the End of a Thimble.

They lie chiefly in the middle and anterior Portions of the Tongue, and are sometimes most visible on the Edges, where they appear to be very smooth and polished, even to the naked Eye, and sometimes in living Subjects. They soon lose their Consistence after Death, so that, by rubbing them several times, they may be drawn out in Form of small soft Pyramids, inclined to one Side.

The Papillæ of the third Kind, or Villosæ, are the smallest, and most numerous. They fill the whole Surface of the upper Side of the Tongue, and even the Interstices between the other Papillæ. They would be more properly named Papillæ Conicæ, than Villosæ, from the Figure which they appear to have, when examined thro' a Microscope, in clear Water. They are naturally softish, but they become extremely flaccid after Death; so that, by handling them, they may be made short and thick, whereas they are naturally long and small.

The fleshy Fibres, of which the Tongue is composed, and which go no further than the Tongue, may be termed *Musculi Linguae Interiores*, or the intrinsic Muscles; and they are the same which *Spigelius* named *Musculi Linguales*. The Fibres these Muscles consist of, are of three general Kinds, longitudinal, transverse, and vertical; and each of these Situations admits of different Degrees of Obliquity. The longitudinal Fibres point to the Basis and Apex of the Tongue, and seem partly to be Expansions of the *Musculi Stylo-glossi*, *Hyo-glossi*, and *Genio-glossi*. The vertical Fibres seem likewise to be in Part produced by the same *Genio-glossi*, and the transverse by the *Mylo-glossi*.

Besides these mixed Productions, there is a distinct Plane of longitudinal Fibres, which run near the Surface of the upper Side of the Tongue, and a distinct transverse Plane under them. All these Fibres are partly interwoven, one Portion of them terminating at the two Edges of the Tongue, and the other at the Basis and Point, without going to any other Part; and they lie immediately above those which belong to the *Genio-glossi*. To discover all these different Fibres, and their different Degrees of Direction, we need only cut the Tongue longitudinally, after it has been boiled, or long macerated in strong Vinegar.

The extrinsic Muscles, or *Musculi exteriores*, are those which, by one Extremity, make a Part of the Body of the Tongue, and are fixed by the other in some Part, without the Tongue. Of these we commonly reckon four Pairs; *Mylo-glossi*, *Stylo-glossi*, *Hyo-glossi*, and *Genio-glossi*.

The Muscles which move the *Os Hyoides* belong, also, to the Tongue, and are the principal Directors of its Motion. Their Names are, *Mylo-hyoidæi*, *Genio-hyoidæi*, *Stylo-hyoidæi*, *Omo*, or commonly *Coraco-hyoidæi*, and *Sterno-hyoidæi*; the Description of which may be seen in their proper Places.

The *Mylo-glossi* are small fleshy Planes situated transversely; one on each Side, between the Ramus of the lower Jaw, and the Basis of the Tongue. Their Insertion in the Jaw is immediately above the posterior Half of the *Mylo-hyoidæus* between the prominent oblique Line on the Inside of the Bone, and the *Dentes Molares*. Thence they run toward the Basis of the Tongue, and are lost there on one Side of the *Glossopharyngæi*. These Muscles are often wanting.

The *Stylo-glossi* are two long small Muscles, which run down from the *Styloide Apophyses*, or *Epiphyses*, and form two Portions of the lateral Parts of the Tongue. Each Muscle is fixed in the Outside of the *Apophysis Styloides*, by a long Tendon, being the uppermost of the three Muscles fixed in that *Apophysis*; which, at *Paris*, go by the Name of *Riolan's Nosegay*. The *Stylo-hyoidæus* is the lowest, and the *Stylo-pharyngæus* is in the Middle, but more backward.

As it runs down almost opposite to the Inside of the Angle of the lower Jaw, it sends off a pretty broad and short lateral aponeurotic Ligament; which, being fixed in that Angle, serves for a *Frænum*, or *Ligamentum Suspensorium*, to the Muscle in this Part of its Course. From thence it passes on to the Side of the Basis of the Tongue, where it first of all adheres closely to the lateral Portion of the *Hyo-glossus*, and then forms, together with that Muscle, a large Portion of the Side of the Tongue.

The *Hyo-glossi* are each inserted in three Parts of the *Os Hyoides*, that lie near each other; in the Basis, in the Root of the great Cornu, and in the Symphysis between these two; and on this Account the *Hyo-glossus* has been divided by some into two or three distinct Muscles, called *Basio-glossus*, *Cerato-glossus*, and *Chondro-glossus*. In some Subjects they may easily be separated, the three Portions being simply contiguous to each other; but it is needless to burden the Memory with so many useless Names, and therefore I describe them all as one Muscle, by the Name of the *Hyo-glossus*.

It is situated on the Inside, and a little lower than the *Stylo-glossus*, with which it forms the lateral Part of the Tongue. The Portion inserted in the Basis of the *Os Hyoides* lies more anteriorly, and is larger than the other two; that which is inserted in the Symphysis, is the least; and that inserted in the great Cornu, the most posterior.

This Muscle is partly sustained by the *Mylo-hyoidæus*, or by a Girth; and the anterior Portion is distinguished from the rest, by the Passage of the Nerves of the Fifth Pair, and of the Arteries which accompany them.

The *Genio-glossi* are situated close to each other on the lower Side of the Tongue. Each Muscle is inserted in the inner, or back Side of the Symphysis of the lower Jaw, immediately above the *Genio-hyoidæus*. Thence it runs backward toward the *Os Hyoides*, to which the lowest Fibres are connected by a ligamentary Membrane; and in this Course, its Fibres are spread through the Substance of the Tongue, in a very singular manner.

Of these Fibres some run directly to the *Os Hyoides*, all the Way to the Basis of the Tongue; some are inflected forward, and go to the Point of the Tongue; and the rest are distributed in a radiated Manner, forward, upward, and backward, in the Substance of the Tongue; and the middle Fibres expand laterally, towards the Edges of the Tongue.

The two *Genio-glossi* run close to each other, as if they formed but one Mass; but they are evidently divided by a very thin cellular Membrane, or middle Septum, which penetrates a good way between the two lateral, or Right and Left Halves of the Tongue, lying in the same Plane with the *Linea Mediana* of the upper Side of the Tongue.

When we separate these two Muscles from the *Chini*, they presently contract so much, that their anterior Extremities, which lie under the Point of the Tongue, are as far back as the Middle of it. It is in this preternatural Situation that we see these Muscles represented in Figures, given by very great Anatomists, and drawn and engraved by very good Artists, in which Figures the whole Beauty of their true Mechanism is lost.

These two Muscles, by their posterior strait Fibres, which go to the Basis, can draw the Tongue out of the Mouth, and bring it back again, by their anterior bent Fibres, which go to the Point. They can either successively, or all at once, make the Tongue longitudinally hollow, or like a Groove; and they can, at the same time, contract it, by the lateral Expansion of their middle Fibres. I pass over many other Motions, which these Muscles are capable of performing; whence I formerly used to call them *Musculi polychresti*.

When either of the *Stylo-glossi* acts, it turns the Tongue toward the Cheek, and forces the Aliment between the upper and lower Molares. When they act jointly with the lateral Portions of the superior fleshy Plane of the Tongue, they turn the Tongue obliquely upward to the Teeth of the upper Jaw, and near the Cheeks; as when we bring down any Part of the Food that hath stuck there after Mastication. When they act jointly with the lateral Portions of the *Hyo-glossi*, they turn the Tongue downward between the lower Teeth and the Cheek.

When all the Parts of the *Hyo-glossi* act together, they shorten the Tongue. They likewise turn the Point of the Tongue between the Teeth and the under Lip, and make it pass over that Lip. The superior fleshy Plane of the Body of the Tongue bends it upward toward the Palate, and makes it pass along, or lick the upper Lip. The *Mylo-glossi* serve as a *Frænum* to one Side of the Basis, while the Point is turned to the other Side. The *Ligamenta Suspensoria* of the *Stylo-glossi* may answer the same Purpose, and even supply the Want of the *Mylo-glossi*.

Besides the Membranes of the Tongue already described, it is customary to mention another, called *Membrana Reticularis*, which is commonly demonstrated from the boiled Tongues of Oxen or Sheep; and some pretend to have shewn it in the human Tongue, which I own I have never been able to do. Long ago, I shew'd what they take from the Tongues of Oxen and Sheep, to be not a true Membrane, but a kind of a clear mucilaginous Substance, which lies between the papillary and external Membranes, and which, by boiling, becomes white, and acquires Solidity enough to be taken out in large Portions; and that the Holes found in it are owing to the small pyramidal Papillæ.

The Tongue is fixed in the Mouth, not only by Muscles, but also by Ligaments, which are for the most part membranous. The principal Ligament is that called the *Frænum*, which is the prominent Fold that appears first under the Tongue, when we raise it, with the Mouth opened; and is no more than a Continuation, or loose Duplication, of that Membrane, which covers the inferior Cavity of the Mouth. It covers the Curvature of the anterior Portion of the *Genio-glossi* from the Point of the Tongue, almost as high as the middle Interstice between the lower *Dentes Incisorii*.

The other Ligaments of the Tongue are the small membranous Fold which runs along the Middle of the convex Side of the Epiglottis to the Basis of the Tongue; and the membranous Folds which cover the inferior half Arches of the *Septum Palati*. These three Folds are Continuations of the Membrane which covers the neighbouring Parts. The aponeurotic Ligaments of the *Stylo-glossus* may be looked upon as true lateral Ligaments of the Tongue; and they adhere a little to the lower Part of the *Musculus Pterygoideus Internus*, or anterior.

The principal Blood-vessels of the Tongue are those which appear so plainly on its lower Surface, on each Side of the *Frænum*; and they consist of one Artery, and one Vein, which accompany

company each other, and are called *Arteriæ & Venæ Sublinguales*, or *Raninæ*. The Veins lie next the *Frænum*, and the Arteries on the other Side of the Veins. The Arteries are Ramifications of the second internal, or anterior Branch of the external Carotid on each Side, and communicate with the first external, or posterior Branch of the same Carotid. The Veins are commonly Ramifications of a Branch of the external and anterior Jugular Vein.

We observe four nervous Ropes to go very distinctly to the Basis of the Tongue, and to continue their Course through its whole Substance, all the Way to the Point. Two of these Ropes are Ramifications of the inferior maxillary Nerves, or of the third Branch of the Fifth Pair, from the *Medulla oblongata*. The other two are the Nerves of the Ninth Pair. The two first I name *Linguales*, or *Hypoglossi minores*, and the other two *Linguales*, or *Hypoglossi majores*. The Majores are inferior and internal; the Minores, superior and external, or lateral. The small Portions, or first Branch of the *Nervus sympatheticus Medius*, or of the eighth Pair, send, also, a Nerve on each Side of the Tongue.

The great lingual Nerve, on each Side, runs forward between the *Musculus Mylo-hyoideus* and *Hyo-glossus*, under the *Genio-glossus*, and is distributed to the fleshy Fibres, all the Way to the Point of the Tongue, communicating by several small Filaments with the *Lingualis minor*, and with the Nerve from the Eighth Pair.

The small lingual Nerve, on each Side, goes from the *Maxillaris inferior*, sometimes at, and sometimes before its Passage between the *Pterygoide Muscles*. Afterwards, separating more and more from the Trunk, it passes under the lateral Part of the Tongue, over the sublingual Gland. It supplies the nearest Parts of the Tongue as it passes, and then, entering its Substance, terminates at the Point, having sent a great Number of Filaments to the papillary Membrane. It communicates, as has been said, with the *Lingualis major*, and with the Nerve from the Eighth Pair.

This lingual Nerve, a little after it leaves the *Maxillaris inferior*, is accompanied by a small distinct Nerve, which runs upward and backward, towards the Articulation of the lower Jaw, in Company with the lateral Muscle of the Malleus; passes through the Tympanum, between the Handle of the Malleus, and the long Leg of the Incus, by the Name of *Chorda Tympani*; and afterwards, perforating the back Side of the Tympanum, unites with the *Portio Dura* of the auditory Nerve. This small nervous Rope has been looked upon by Anatomists as a kind of small Recurrent of the *Nervus lingualis*; but as in some Subjects it appears to make simply an acute Angle with the lingual Nerve, and as this lingual Nerve is something larger after this Angle, it ought rather to be believed to come from the Tympanum, and to unite with the lingual Nerve, than to arise from this Nerve, and run up to the Tympanum. In some Subjects the Union of this Nerve with the *Lingualis* is, in a manner, plexiform, and very difficult to be unfolded.

The lingual Nerve of the Eighth Pair, which is its first Branch, runs first on the Inside of the digastric Muscle of the lower Jaw, and supplies the *Genio-hyoidei*, the neighbouring Muscles, or the Basis of the Tongue, and those of the Pharynx. Afterwards it sends out the Ramifications, and forms the Communications described under the Article *Nervus*; and, lastly, goes to the lower Part of the Tongue, where it communicates with the lingual Branch of the Fifth Pair, and with the lingual Branch of the Ninth.

The Tongue is the Organ of the Sense called Taste, by means of the Papillæ, especially the *Villose*, or *Pyramidales*. It is not as yet discovered in what manner the *Papillæ Semilenticulares* contribute to the Taste; and the *Capitæ* ought to be looked upon as salival Glands.

The Tongue is, likewise, one of the principal Instruments of Speech, and of the Articulation of the Voice. *Riolan*, in his *Anthropographia*, mentions a Child, of five Years of Age, who, though he had lost his Tongue by the Small-pox, but not the Uvula, continued still to speak almost as distinctly as before. Probably the Basis of the Tongue still remained. *M. de Jussieu* has published an Observation in the *Memoirs of the Royal Academy*, concerning a little Girl, who could speak, though she was born without a Tongue, in room of which there was only a kind of small Tubercle.

The Tongue serves, also, to collect all the Morfels, which we chew, to turn them in different manners, and to different Parts of the Mouth, and to rub off whatever sticks to the Palate; and it is useful in spitting and sucking. It bears a great Part in Deglutition, being assisted by the digastric Muscles, which by contracting, at the same time that the other Muscles press the lower Jaw against the upper, raise the *Os Hyoides*, and fix it at a convenient Height, that the *Stylo-glossi*, and *Hyo-glossi*, may make the Basis of the Tongue bear back upon the Morfel, which is to be swallowed, and so force it into the Pharynx, the Portions of which, that are, at that time, immediately above the Morfel, do instantly contract, and push it into the *Oesophagus*.

VOL. II.

OF THE DISORDERS OF THE TONGUE, WHICH REQUIRE CHIRURGICAL OPERATIONS.

THE METHOD OF DEPRESSING THE TONGUE.

Disorders of the Mouth and Palate, Inflammations of the Tonsillæ and Uvula, a Polypus and Abscess of the Mouth, a small Bone, or the Bone of a Fish, sticking in the Fauces, and the like, frequently require a Depression of the Tongue, before they can be remedied. For this Purpose an Instrument has been contrived, called *Specillum Lingue* (See *Tab. XXII. Fig. P*). But Patients of greater Delicacy prefer the flat Handle of a clean Spoon, which is both neater, and more convenient. But in using this Instrument Care must be taken to move it gently, to prevent increasing the Pain and Inflammation. If Injections are necessary, the Syringe is to be conveyed into the Mouth, over the Handle of the *Specillum* or Spoon. But if an Ulcer of the Mouth, a Disorder of the Tonsils, or a Polypus in the Nose, happen, but without Inflammation or Convulsions, in which the Mouth cannot be sufficiently opened, the *Speculum Oris* may be cautiously applied. See *Tab. XLI. Fig. 12. or 13.*

THE METHOD OF CUTTING THE FRENULUM OF THE TONGUE.

Sometimes, in Infants, the Tongue is so firmly connected, by the Frenulum, with the Bottom of the Mouth, that they cannot sufficiently move or put out the Tongue in sucking. This Tying, or Shortness of the Tongue, is, likewise, observed sometimes in Adults, who cannot, upon that account, speak articulately. This Disorder is far from being so frequent as is generally imagined, not one Infant of a thousand being affected with it, and is not near so common as the *Hate-lip*. When the Child can put his Tongue out of his Mouth, the Frenulum requires no Operation; for the Child will soon learn both to suck and speak, when there is no other Impedient. But if the Child can scarcely move the Tongue, or extend it beyond his Teeth, it may then be necessary to free it by Incision. But this Operation, if rashly performed, is sometimes productive of very bad Consequences, and even of Death itself.

Take hold of the End of the Tongue with a Linen Cloth between it and the Fingers, lest it should slip, as in *Tab. XLII. Fig. 1.* or the Tongue may be elevated by the Left Hand, with a small Fork, made for the Purpose (See *Fig. 2. 3. and Tab. XXII. O. P.*) Then as much of the Frenulum of the Tongue, running between the ranular Veins, and the lower salival Glands, may be divided with an obtuse-pointed Pair of Scissors, (*Tab. XXII. C.*) or a Knife, as appears to be sufficient for freely permitting Suction, or Speech; but great Care must be taken in the Operation, to avoid wounding the salival Ducts, the ranular Veins, or the Nerves of the Tongue; for such Wounds may be attended with very fatal Consequences: Thus *Dionis*, in his Surgery, gives an Instance of an Infant which died after the Operation, by the Effusion of Blood from the wounded ranular Veins. If a Vein should be accidentally cut, which in a short thick Frenulum may readily happen, a Compless, dipt in Vinegar, must be applied to the Tongue, till the Hemorrhage be stopped. If, by the first Incision, the Tongue is not sufficiently freed, after some Days, or even Weeks, the Remainder of the Frenulum must be cut, but with the greatest Caution. After the Operation anoint the Wound with Honey of Roses, or Syrup of Violets, applied by the Fingers, and repeat this frequently, in order to hinder the divided Parts from reuniting.

Hence it not only appears, that Cases of this kind are uncommon, but that the Cure is dangerous. How wretchedly, then, are those Midwives deceived, who, with the greatest Ignorance, assert, that almost all Infants are born with this Disorder! Upon this Supposition, therefore, they thrust their Fingers into the Mouth of the new-born Infant, and, with their Nails, cruelly lacerate the Frenulum. Such rash, and such rude Treatment can scarcely fail to induce Inflammations of that Part, Convulsions, and even Death itself, on the most tender Infants. *Hildanus*, in *Cent. 3. Obs. 28* has given an accurate Account of the Nature and Cure of this Disorder, and of the many bad Consequences which attend the rash or unskilful Performance of the Operation.

OF A RANULA, OR TUMOR, AND A STONE UNDER THE TONGUE.

A Ranula is a Tumor, or Abscess, under the Tongue, near the ranular Veins, either on the Right Side, Left Side, or Middle. The contained Matter is of different Sorts; sometimes it resembles a tough mucilaginous Lymph, sometimes it is thicker, sometimes it is purulent, and inclinable to Dentify, and sometimes it is of a stony Consistence. Sometimes the Tumor grows suddenly, and not only impedes Speech and Deglutition, but likewise excites very acute Pains. Sometimes hard fleshy Tubercles are produced in this Part, which, the more

Pain they excite, are the more dangerous, and I have sometimes seen them degenerate into a Cancer. Tumors under the Tongue are more frequent in Children than in Adults; nor can they be easily resolved, as Medicines for that Purpose cannot be conveniently applied to them. The same Reason makes it equally difficult to bring them to a Suppuration; so that no Relief can be expected, except from surgical Operations.

As these Tumors are nearly of the same Nature with the encysted Kind, they ought to be treated in the same manner, which is by far the readiest, were it not attended in this Case with very great Difficulties. For the Bag is not only extremely thin, but the Crying of the Child extremely exposes the Nerves, Blood-vessels, or salival Ducts, to dangerous Wounds; whence may arise intense Pain, Spasms, Inflammations, or violent Hæmorrhages. It will, therefore, be safer to turn the Tongue upward with one Hand, and, with a Knife, make a transverse Incision in the Tumor, carefully avoiding the Nerves, Vessels, and Ducts already mentioned; thus may the morbid Matter, whether it be viscid, inspissated, or purulent, be discharged; but, if it be very thick, it must be expressed by the Fingers. In order to prevent the remaining Bag from generating a new Tumor, which frequently happens, apply, to the very Bottom of the Wound, Lint moist in Honey of Roses, considerably acidulated with Spirit of Vitriol; thus detaching the Wound daily, till the Bag be entirely consumed. Then may the Wound be safely healed, by applying Oil and Sugar, Honey of Roses alone, or Oil of Myrrh *per Deliquium*. Sometimes the Tumor bursts spontaneously; and then the Ulcer must be detatched and healed as is above directed. Sometimes the small Glands, under the Tongue, appear swelled with Pain and Inflammation. When this happens, the Patient should often keep warm Milk in his Mouth, frequently applying a half-roasted Fig to the Part affected, and under the Chin emollient Cataplasms and Plaisters, till the Tumor be either dissolved or ripened. If it ripens, it ought to be laid open, detatched, and healed, like an Abscess of the Gums. But when, as I have sometimes observed, the Tumor is situated under in the Middle of the Tongue, or where the salival Ducts terminate in the Mouth, Incision must never be attempted, because of the Danger of wounding these Ducts, with the Nerves and Blood-vessels. It is safer, therefore, to wait till Nature opens the Ulcer, which may then be treated as before. When a Tumor of this kind inclines towards a Cancer, it will submit to none of the Methods here proposed. If a Stone appears in this Part of the Tongue, the Part must be laid open; and, if the Stone does not fall out spontaneously, it must be extracted with a Probe, or Forceps, and the Wound may be treated as we have already advised.

OF A SCIRRHUS, ULCER, AND CANCER IN THE TONGUE.

If Part of the Tongue is seized with an Hardness, and swells without Pain, it is said to be affected with a Scirrhus. But, as soon as it becomes painful, and emits a purulent Matter, or fetid Sanies, it gradually degenerates into a Cancer. This Tumor is at first small, not unlike a Pea, or a Philbert; sometimes it a little enlarges itself, and sometimes overspreads the greatest Part of the Tongue. Sometimes it is moveable, and sometimes entirely fixed. Sometimes it is covered and occult, and sometimes open and ulcerated, emitting, like other Cancers, a most fetid putrid Humour, and gradually consuming the Tongue. Sometimes this miserable Disorder arises spontaneously, without any manifest Cause; but more frequently from the pricking Wounds of a sharp, rough, broken Tooth; from which Cause I have sometimes seen one Side, and sometimes the Point of the Tongue corroded and destroy'd.

When, therefore, this Disorder is thus occasioned by a Tooth, it ought either to be drawn immediately, or at least the pricking Point or Roughness should be carefully abraded with a proper Rasp, like that in *Tab. XL. fig. 22.* for, till this be effected, no Remedy can be expected. Then the morbid Part of the Tongue must be plentifully anointed with Oil of Myrrh *per Deliquium*, or with Honey of Roses mixed with *Peruvian* Balsam, or Balsam of Mecca. If the Disorder proceeds from internal Causes, internal Medicines, proper for a Scirrhus or Cancer, should be exhibited; but if these, and other Remedies, have little Effect, the morbid Part must, with all Expedition, be removed by Incision, lest, by Delay, the Disorder should increase, and the Operation become dangerous. It is, however, to be observed, that sometimes small Tubercles arise in the Tongue like Peas, or larger, which not only retain the same Size, but continue without Pain or Inconvenience many Years, even to the End of Life. The Cure of these Tubercles ought never to be attempted; for the more they are treated with Medicine, the more they are irritated, and even degenerate into an open Cancer, and bring the Patient to a miserable Death. If the Tumor increases, excites Pain, and is moveable, an Incision must be made with the Knife, so as to separate the morbid Parts from the sound. But if it be fixed, and not very large, the nearest sound Parts ought to be removed with it. But, when the Tumor is greatly increased,

and so situated in the Roots of the Tongue, that it is impossible to cut it entirely out, it is better to abstain from the Operation, than to torment the Patient to no Purpose, or perhaps kill him: For, unless the Whole can be extirpated, it becomes worse by the Incision. For the more convenient Performance of the Operation, it will be necessary to have an Assistant at the Back of the Patient for holding his Head; and another on one Side, to extend or hold fast the Tongue, with his Fingers covered with a Piece of fine Linen, or with Forceps, or such Instrument as is represented in *Tab. XL. Fig. 9, 10.* The Scirrhus or Cancer being thus extirpated, the Wound may be healed with Honey of Roses, and a little of the Balsam above recommended; or with the Oil of Myrrh, or Oil of Olives; or with a Liniment made of Sugar, and the Oil of Sweet Almonds. After the Cure is completed, the Patient must be strictly enjoined to lead a regular Life, and to use a proper Regimen, and Medicines ever after, otherwise he will be in danger of a Relapse. *Ruyssch*, in his *Observat.* 76. relates a remarkable Case of this kind, in which, after having removed the ulcerated Tumor by Incision, he cured the Patient by applying the actual Cautery; which, without Cauterization, could not be effected, though the Tumor had been before several times extirpated.

OF PROGNOSTICS IN ACUTE DISEASES TAKEN FROM THE TONGUE.

The Inspection of the Tongue, in acute Diseases, is sometimes of no small Moment for predicting the Fate of the Patient. *Hippocrates*, 6 *Epid. Sect. 5.* *Aph.* 13, 15. says, that "that the Tongue is of the same Colour with the predominant Humour," which he explains in the following Words. "The Tongue indicates the Urine [either properly so called, or the serous Part of the Humours. *Galen.*] a palish-yellow Tongue [*χλωράει* *γλωσσῆς*] proceeds from Bile, which is the Effect of a pituitous Matter; a red Tongue from Blood; a black Tongue from black Bile; a very dry Tongue from a fuliginous, adust Matter; and a white Tongue from Phlegm." Hence it appears, that it is easy to know the predominant noxious Humour; for the Colour of the Tongue denotes the particular Humour, which causes the Disorder. But we are to distinguish here, and consider whether such an Alteration of the Tongue proceeds from a Vapour or Humour, or from Meat or Drink, or Medicine, or a Distillation from the Head; for it may be owing to any one of these Causes. It will be necessary, therefore, to be well assured, that such a Colour is not the Effect of any of the Causes above-mentioned, but proceeds from Vapours or Humours convey'd from the Veins and Arteries to the Tongue, which is the more easily susceptible of any Colour, because it consists of a flaccid, lax, and soft Substance, furnished with large Veins. *Galen*, on this Subject, says very well in his Comment on the Place above quoted: "For the Tongue, being furnished with large Veins, and consisting of a loose spongy Substance, is more adapted than hard and dense Bodies for the Admission of serous Humours, and for the Reception of any Colour from them after the Manner of Wool." Thus much being premised, we come to consider the Prognostics, which may be drawn from the Tongue.

In all acute Diseases, it is best to have the Tongue like that of a Person in Health, provided it does not appear so from some external Cause, as Meat, Drink, Medicine, or a Defluxion from the Head. When the Body is in a due Temperament, the Tongue is moderately red, soft, of a well-proportioned Magnitude, and void of all Defects, both with respect to Taste and Speech. In acute Disorders therefore, and especially in burning Fevers, and a Synochus, for the Tongue to appear after that Manner, is a good Sign; for its redish Colour indicates the noxious and morbid Humour to be neither much in Quantity, nor very putrid and inflammatory; for, in either of these Cases, the Tongue, of necessity, would be either yellow, or Saffron-colour'd, or black, or intensely red; since, as we have observ'd from *Hippocrates*, the Tongue cannot but be ting'd and stained with the Vapours and Exhalations of the Humours, which are most predominant in the Body, whether they are bilious, adust, or pituitous. A soft Tongue, if its Softness be not immediately owing to Meat, Drink, Medicine, or some Distillation from the Head, signifies that the Viscera are not much affected with an Excess of Heat; for which Reason, also, the Patient is not very thirsty. A Softness of the Tongue, proceeding from a pituitous Distillation from the Head upon the Fauces, is known and distinguished by proper Signs; the principal whereof are the immoderate Sleepiness of the Patient, attended with an extraordinary Degree of Heat. A Distillation of this Kind, by irrigating the Tongue and Fauces, not only prevents the Tongue from being dry, but even mitigates its Thirst. For this Reason it is said by *Hippocrates*, 4 *Aph.* 54. that they who are affected with a Cough, are not very thirsty, and for the same Cause they speak readily and freely: Thus you have the Description of a Tongue not bad in acute Diseases.

Sometimes

Sometimes the Alteration of the Tongue, from its natural State, is an Indication of a good Crisis; as, for Instance, in a severe Quinsey, when it appears highly inflamed, and very much swelled, by the Translation of the Humours upon the Fauces and Tongue, or when it is affected with Convulsions and Tremblings on the same account. But such Alterations are to be judged by proper critical Signs, which ought to precede them: And so much for a good Tongue; we come now to speak of a bad one.

A Tongue any way changed and vitiated, in Colour, Bigness, or Substance, is bad. In acute Diseases that Tongue is bad with respect to Colour, which is white, gross, and feculent: These Symptoms of the Tongue, says *P. Alpinus*, I observ'd in an epidemic Fever, which raged at *Genoa* some time ago, and they were a good Proof to me of a Redundance of pituitous and gross Humours, and also of a great Heat in the Viscera; nothing, however, with respect to Life or Death, could, with Certainty, be predicted from this Appearance. Wherefore, tho' this be no good Sign, as indicating the Disease to be fomented by a Redundance of gross and pituitous, mixed with bilious and putrid Humours, yet, from this alone, without any other bad Symptoms, we can by no means prognosticate the Death of the Patient.

The next bad Tongue, with respect to Colour, is the yellowish Tongue, which *Hippocrates* calls *χλωρά*, *Chlora* [See *CHLOROS*]. This indicates the Disease to proceed from a Redundance of Bile, and that putrefied, and by so much the more dangerous.

But this is not so dangerous as the black Tongue, which indicates an Abundance of adust Blood, which is more difficult to be corrected by Nature, than other Humours. Such a Tongue as this is proper to igneous and burning Fevers, attended with the highest Squalidness; and is always to be dreaded, but most of all when in Conjunction with other pernicious Signs: It is, also, a Symptom of pestilent burning Fevers. Wherefore it is justly esteemed a Symptom proper to acute Diseases, as may very well be gather'd from *Coac.* 229. where it is said, "that an extraordinary Blackness of the Tongue indicates a Crisis in fourteen Days." It is added, "The most dangerous is the black and chlorous or yellowish Tongue." Perhaps he means the chlorous inclining to black, and for good Reasons, since it indicates, that the Bile, which before usurped the Place of Blood, and tinged the Tongue with a yellow Colour, is, by an Increase of the Inflammation, now become black, and the Blood adust, which is the worst State of all.

Again, a black Tongue attended with a Trembling, is condemned by the Author of the *Coac.* 233. where he says, that "Tremblings of the Tongue, in some Patients, are Causes of a Looseness; but, if the Tongue, also, becomes black, it prognosticates speedy Death."

But a Tongue of a livid Colour is the most mortal Prognostic of all, because such a Colour is caused by an Alteration from a yellow, or red, to a black, on account of an high Inflammation of some Bowel, and an Excess of extraneous Heat, attended with a Deficiency or Extinction of the innate natural Heat.

A great Redness of the Tongue is, also, observed by Physicians to be sometimes a very bad Sign in Quinsies and Peripneumonies, but its Malignity is increased and confirmed by other bad Signs. Such was the Tongue of the Woman labouring under a Quinsey, who lived with *Ariflion*, 3 *Epid. Sect.* 1. *Ægr.* 7. and died on the fifth Day of her Illness; and such was, also the Case of the Son of *Balis*, 7 *Epid. Text.* 19. who died on the ninth Day.

In a Quinsey, the Tongue sometimes increases in Bulk to such a Degree, as hardly to be contained in the Mouth; but the Patient, in such a Case, by a right Method of Treatment, has been often cured, though not a few have been suffocated. Many, on the contrary, have had their Tongues very considerably diminished, their Moisture being almost totally exhausted by an excessive Heat; which shews the Fever to be very intense, and the Case very dangerous: But, to make a right Judgment, other Signs must, also, be considered.

A great and black Tongue is mortal, as indicating an Extinction of the natural Heat. This was the Case of the young Woman, 5 *Epid. Text.* 53. who, in the twentieth Year of her Age, took a Medicine to procure Abortion, and died on the fourth Day.

As to the Substance of the Tongue, some are remarkably soft, from imbibing much Humidity; others are very dry, rough, uneven, rugged, chapt, ulcerated; some appear with small Tumors, some are hot, others cold to the Touch; some appear in a State answerable to the Measure of Thirst, others are accompanied by no Thirst at all.

The Tongue is dry and parched in all Fevers, but most of all in burning Fevers, and no less in such as are accompanied with a Phrensy. A dry and rough Tongue seems proper to burning Fevers, as *Galen* observes, *Com. in Prorrhet.* and a Tongue vehemently dry is a Sign of an intense Heat. In such Cases the Tongue first becomes dry and parched, then rough and uneven, soon after hard and rugged, and, at last, by the Violence of the Heat, chapt and ulcerated, in the same manner as the Earth is

affected with Chaps and Fissures, when immoderately dried by the vehement Heat of the Sun.

An hard and rugged Tongue is very bad, and proper to a Phrensy, as it contracts a vehement Degree of Driness from the Vicinity of the Inflammation. Hence the Author of the *Prorrhet. Lib.* 1. *T.* 3. calls dense, or hard, and dry Tongues, phrenitic; and of such we read in *Coac.* 229. where it is said, "that a Tongue, which in the Beginning grows rugged, but maintains its Colour, but, in the Progress of the Disease, becomes rough, livid, and chapt, is mortal." A Driness of the Tongue, however, without the Concurrence of other Signs, is of no Importance towards prognosticating the Death of the Patient; for many who have had such Tongues, when labouring under severe Distempers, have yet recovered. Instances of this we have in 1 *Epid. Sect.* 7. *Ægr.* 14. in the Virgin of *Larissa*.

If the Tongue be black, as well as dry, it is a more pernicious Sign: But we must not presume from hence to predict the Death of the Patient without the Concurrence of other Signs; of which Nature were those observed in conjunction with a Blackness of the Tongue, by *Hippocrates*, in the Wife of *Dromedus*, 1 *Epid. Sect.* 3. *Ægr.* 11. and in him, who, being somewhat feverish, went to Supper, and drank freely afterwards, *Ægr.* 12. and in *Hermocrates*, 3 *Epid. Sect.* 1. *Ægr.* 2. and in many others. To have the Tongue thus dried in a Quinsey is a very bad Sign, as it indicates the Greatness of the internal Inflammation, which is what suffocates the Patient. Thus did the Tongue of the Woman, who died of a Quinsey on the fifth Day, appear to *Hippocrates*, 3 *Epid. Ægr.* 7.

The Tongue appearing with Chaps and Ulcerations is an Indication of a more pernicious and malignant Inflammation. I have observed, says *P. Alpinus*, in malignant Fevers, a squalid, chapt, and pustulous Tongue, but the Patient did not always die; tho' *Rhasis*, *Lib.* 10. *Cap.* 3. writes, "When Pustules appear on the Tongue, of the Bigness of Chiches, and the Fever is violent and acute, the Patient will die on the Beginning of the next Day." We may conclude, therefore, that a dry, hard, and very black Tongue, appearing with other bad Signs, is a fatal Presage; and, most certainly, when the Patient, at the same time that his Tongue is thus dried and exasperated, is insensible of Thirst; for this, in burning Fevers, is a most pernicious Sign, as indicating, according to *Galen*, in 1 *Epid.* either a Delirium, or an Extinction of the Faculty.

Whenever, then, we observe a dry and adust Tongue, without Thirst, we may venture to predict a Delirium, or Death; and the last of these, if such a Tongue be attended with pernicious Signs, of such a Nature as those which were observed by *Hippocrates*, in the Person who supped when he was feverish, and in *Hermocrates*, before-mentioned, who both died. Of the first of these, he says, "A certain Person, being somewhat feverish, went to Supper, and drank pretty freely; in the Night he vomited up every thing, had an high Fever, attended with a Pain of the Right Hypochondrium, and a slight [*ὀποδπαρσ*] Inflammation of the internal Parts; he was very restless all the Night; his Urine, at first, was thick, red, and deposited no Sediment; his Tongue was very dry, but he had no great Thirst." As to the Case of *Hermocrates*, after he had told us, that his Tongue, in the Beginning, was very much parch'd, was deaf, sleepless, but not very thirsty, and that his Urine was thick, and turbid, he adds afterwards, "On the twentieth Day, he had another Crisis [spoken with relation to the imperfect Crises on the eleventh and fourteenth Days], was free from a Fever, and had no Sweat, was averse to Food all the time, and in his perfect Senses, but could not speak; his Tongue was very dry, but he had no Thirst; and he was sleepy, and somewhat affected with a Coma. About the twenty-fourth Day the Fever returned; he had a Looseness upon him, and voided Abundance of thin Matter by Stool; he had an high Fever the following Days, his Tongue was extremely parch'd, and on the twenty-seventh Day he died." That the dry and adust Tongue of this Patient, unattended with Thirst, was one of those Symptoms, which indicate an Extinction of the Faculty, was demonstrated by those other ill Signs which attended it, as a perpetual Loathing of Food, and the rest. An adust, or extremely parched Tongue, therefore, in acute Diseases, portends, as we said, either a Delirium or Death. We ought however, to be cautious in passing our Judgment on the Life of the Patient from these two Signs alone, since, as we before hinted, the Tongue may appear very dry and adust, and the Patient not be thirsty; and yet no Delirium, nor Extinction of the Faculty, be observable. This is owing to a Distillation of pituitous Humours from the Head, by which the Fauces are irrigated, and the Thirst extinguished. And we are certain, that this is the Cause, if there were no other Reason for it, than that the whole Tongue, in such Cases, is not dry; for, when in a Distillation of pituitous Humour, the whole Substance of the Tongue is not dried, but only the Part next the Root, and the Tongue, after an Ablution with Humour, soon grows soft. To this may be added, that the Sick, in such Cases, are not perpetually wakeful, but have the Convenience of Sleep; because the superior Parts of the Body abound with Humidity. Some-

times the Distillation upon the Fauces plainly discovers itself by the Patients frequent hauking and spitting, which are occasioned by the copious Humour descending from the Head. To conclude, therefore, upon the Whole, when the Tongue, in a burning Fever, where there is no Distillation of Humour from the Head, appears dry, rough, and adust, and these Symptoms are unattended with Thirst, we may safely venture to predict a Delirium, or an Extinction of the Faculty.

A dry Tongue feels sometimes hot, sometimes cold, to the Touch; the latter is a mortal Sign, because it never happens but in violent Inflammations. A Tongue which feels hot and rough, is not so dangerous; but most threatening when it happens in the Beginning, as it did in the Case of *Hermocrates* before-mentioned.

A tremulous or trembling Tongue is, also, a Symptom in acute Disorders; and if it be consequent upon a most intense Driness of the same Part, is mortal in the last Degree. A Trembling of the Tongue is an usual Symptom in mortal Phrensies, agreeably to the Author of the *Prophet. Lib. 1. T. 20.* who says, that "a trembling Tongue is a Sign of a disturbed Reason." For when the Brain labours under a Phrensy, which is an hot Affection, the Tongue cannot be at Rest; on which account it frequently happens, that the Sick stammer, and are not able to speak out their Word, a little before their Death: And these two Symptoms, I mean Tremblings and Convulsions of the Tongue, are usually observed by Physicians in pernicious Phrensies. Convulsions of the Tongue are a Consequence of the Driness of the Muscles of that Part, which are affected together with those of the Head, as a Trembling of the Voice is owing to a Weakness contracted from a Distemperature of the Humours; and all those before-mentioned Symptoms, which proceed from an intense Driness of the Brain, indicate a disordered Mind. When this Trembling and Stammering of the Tongue proceeds from an universal Induration of the Muscles, it is the more pernicious, as being caused by the immoderate Driness of the Brain.

But here again, that we may not be mistaken in our Prognostics, we are to make a Distinction between the Causes of those Tremblings and Convulsions of the Tongue; for, if they proceed, as was observed, from an immoderate Driness of the Muscles, and their Heads, and of the Nerves, it is certainly mortal; but, if the Tongue trembles, and suffers Convulsions, when the muscular and nervous Parts are replete with some Humour, it is no fatal Sign: For such a Repletion is frequently the Cause of those Tremblings and convulsive Motions of the Tongue, which happen in the Beginnings of Diseases, and must be ascribed to the Redundance of Humours, as it happen'd in the Case of *Pythion*, in the Beginning of the third Book of the *Epidemics*; and as it is sometimes observed before a Crisis, in which Circumstance they are justly reckon'd among critical Signs. A Distinction, therefore, is to be made, with respect to our Prognostication, between those Tremblings and Convulsions of the Tongue, which proceed from Driness, and are always fatal; and those very Symptoms, when caused by a Repletion; for those latter happen in the Beginnings of Distempers, or are attended with other critical Signs; but the other are only consequent upon a very hot and dry Disorder. *Prophet. Alpinus de Præfug. Vit. & Morb.*

LINGUA AVIS. A Name for the *Doria*; *quæ Jacobæa*; *foliis integris & mucronatis*.

LINGUA CERVINA.

The Characters are;

The Seed-vessels are in the under Face of the Leaf, disposed in a vermicular Series, or like the Track of a Worm, and cover'd with a thin Membrane, which is pierced by the Fruit when ripe. These Vessels consist of a thin, hollow, orbicular, lenticular Pellicle, surrounded with an elastic Ring, which, breaking the mature Fruit, causes an Explosion of very thin Seeds. The Leaves are simple, long, entire, or jagged, and in exotic Kinds sometimes, tho' very rarely, branched.

Boerhaave mentions fifteen Species of this Plant; which are,

1. *Lingua Cervina*; *Officinarum*. *C. B. P.* 353. *Tourn. Inst.* 544. *Boerb. Ind. A.* 143. *Lingua Cervina & Phyllitis*. *Offic. Phyllitis*. *Ger.* 976. *Emac.* 1138. *Raii Hist.* 1. 134. *Synop.* 44. *Phyllitis sive Lingua Cervina vulgi*. *J. B.* 3. 756. *Phyllitis sive Lingua Cervina vulgaris*. *Park.* 1046. **HART'S-TONGUE.**

The Hart's-tongue is small, blackish, and stringy; from which spring long, narrow, smooth Leaves, ending in a sharp Point, near a Foot long, and about two Inches broad; that Part next the Stalk, terminating in two round-pointed Auricles. The Seed grows in broad oblique Lines on each Side of the Stalk, on the under Part of the Leaves, being small and dusty, like the Seed of other capillary Plants. It grows in shady Lanes, and on old Stone Buildings, being green all the Year.

Hart's-tongue is principally used for Disorders of the Liver and Spleen, being good to dissolve hard, scirrhus Tumors in either; it is also serviceable for the Rickets in Children, and for Spitting of Blood, and the Bloody-flux. *Dioscorides* commends it against the Bungs of Serpents, and Mr. *Ray* praises it either given in Powder, or a Conserve of the green Leaves, as particularly useful for hysteric and convulsive Fits, and the Palpitation of the Heart. *Miller's Bot. Off.*

Externally apply'd, it cleanses Wounds, and Ulcers. *Schroder*, Boiled in Wine, it is good against the Bite of a mad Dog, and Obstructions of the Viscera. *Dioscorides*.

Boerhaave looks upon all this Plant to be resolvent and aperient.

2. *Lingua Cervina*; *angustifolia*; *lucida*; *folio serrato*. *Phyllitis crispa*. *J. B.* 3. 757.

3. *Lingua Cervina*; *major* *folio*, in duas tresve lacinias & profundius dissecto.

4. *Lingua Cervina*; *maxima*; *folio auriculato*, parum undulato, in duas tresve lacinias secto.

5. *Lingua Cervina*; *maxima*; *undulato folio*, auriculato per basin. *M. H.* 3. 557. *Phyllitis*, seu *Lingua Cervina*, *maxima undulato folio*, *auriculato per basin*. *Plukn Phyt.* 248.

6. *Lingua Cervina*; *minima*; *folio undulato*.

7. *Lingua Cervina*; *folii magni*, crispis, nervo exterius aculeato.

8. *Lingua Cervina*; *medio folii nervo* in aculeum abeunte. *M. H.* 3. 557.

9. *Lingua Cervina*; *medio folii fimbriati nervo* in aculeum abeunte. *Vaill.*

10. *Lingua Cervina*; *multifido folio*. *C. B. P.* 253. *M. H.* 3. 557. *Sett.* 14. *T. 1. Phyllitis*, *Polyschides*. *J. B.* 3. 757.

11. *Lingua Cervina*; *quæ Phyllitis*; *major ex uno pedunculo quandoque bifolia*. *M. H.* 3. 557.

12. *Lingua Cervina*; *minor ex uno pedunculo quandoque trifolia*.

13. *Lingua Cervina*; *ramosa*; *folio per summum in orbem convoluta*.

14. *Lingua Cervina*; *ramosa*; *major*; *foliis multifidis & crispis*.

15. *Lingua Cervina*; *folio maximo*, infra auriculato, supra in amplas lacinias foliaceas explicato. *Boerb. Ind. alt. Plant. Vol. 1. p. 23.*

LINGUA MAJOR. A Name for the *Doria*; *quæ Jacobæa*; *foliis integris & mucronatis*.

LINGUALIS MUSCULUS. *Douglas* takes notice of a Muscle of the Tongue, which he calls by this Name. It arises, says he, pretty large and fleshy from the Basis of the Tongue laterally, and runs strait forwards between the Cerato and Genioglossus, to its Tip, where it is hard to determine whether it ends there, or if it returns circularly after the same manner on the other Side to the Root of the Tongue again.

Its Use is to contract or narrow the Substance of the Tongue, and at the same time to bring it backwards and downwards.

LINGULA. The same as **LIGULA**.

LINIMENTUM. Oils, Unguents, and the Fats of Animals; or whatever any Part is anointed with, are comprehended under this Name. But a Liniment, in Pharmacy, is a Composition of a Consistence somewhat thinner than an Unguent, and thicker than an Oil, us'd for anointing different Parts of the Body, in various Intentions. There are many Sorts of Liniments directed in Pharmaceutical Writers; but the College have thought fit to direct only one in their Dispensatory, which is the *Linimentum Alvei*; for a Description of which, see **ELEM.**

The Materials proper for the Composition of a Liniment, are Oils, Fats, Balsams, and whatever enters the Composition of Unguents and Plaisters. The best way of using Liniments, is to apply them after the Pores have been opened by Frictions, or Fomentations.

LINOSYRIS. A Name for the *Coma aurea*; *Germanica*.

LINOZOSIS, *λίνοζωσις*. The Name by which *Hippocrates* calls Mercury, a Decoction of which he frequently directs to procure Stools. It is the *BONUS HENRICUS*; which see.

LINTEUM. Linen. In Surgery it comprehends Lint, Tents, Compresses, and Rollers.

LINUM.

The Characters are;

The Leaves are generally alternate; the Calyx is monophyllous; tubulated and quinquefid. The Flower is like a Clove-gillyflower, pentapetalous, and furnished with five Stamina. The Ovary, which is seated in the Bottom of the Calyx, is of an oblong Figure, covered with a thin Membrane, shoots forth five long Tubes, and becomes a globular, acuminate Fruit, consisting of many Capsulas, five or six perhaps, which are full of a flat Seed, of a Figure almost oval, being acute at one End, and obtuse on the other.

Boerhaave mentions eight Species of this Plant; which are,

1. *Linum*; *arvense*. *C. B. P.* 214. *M. H.* 2. 573.

2. *Linum*; *sanivum*. *C. B. P.* 214. *Ger.* 444. *Emac.* 556. *Raii Hist.* 2. 1072. *Tourn. Inst.* 339. *Park. Theat.* 1335. *Boerb. Ind. A.* 284. *Linum*. *Offic.* *J. B.* 3. 450. *Raii Synop.* 3. 362. **FLAX.**

Flax has round slender unbranched Stalks, a Yard or more high, clothed with many long, narrow, sharp-pointed, glaucous Leaves; on the Tops of the Stalks grow a great many small, five-leav'd, blue Flowers, soon falling off; and are follow'd by round Heads, or Seed-vessels, each divided into about ten Partitions, containing as many oblong, flatish, shining, brown Seed. The Root is small and woody, as soon as the Seed is ripe. Of the Bark of the Stalks of this Plant, which is tough, and made up of a great

a great many slender Filaments, is made Linen Cloth. It is sown in Fields, and flowers in *June*. The Seed only is used.

This Seed, which is usually called Linseed, is emollient, digesting, and ripening, of great Use against Inflammations, Tumors, and Impostumes, and is frequently put into Fomentations and Cataplasms, for those Purposes. Cold-drawn Linseed-oil is of great Service in all Diseases of the Breast and Lungs, as Pleurifies, Peripneumonies, Coughs, Asthmas, and Consumption. It likewise helps the Colic and Stone, both taken at the Mouth, and given in Clysters.

The Oil, by Expression, is the only official Preparation. *Miller's Bot. Off.*

In pleuritic Pains, says *Raygerus*, *Ephem. Germ. An. 6. & 7.* I have often experienced Linseed-oil to be the most successful Medicine I could prescribe; for it immediately facilitated Respiration, and promoted Spitting. In an Hæmoptoe, also, I exhibit the same Oil, with the desired Success; for, by its balsamic and emplastie Virtue, it consolidates the affected Parts.

Linseed-oil is of so subtile Parts, as not to be kept in earthen Vessels, without Transudation. *Meyerus de Lusu serio*. Tumors of the Belly are very happily cured by the Use of Linseed-oil. *Ephem. German. An. 3.*

This Plant has a more oily Taste than the Mallow, and is the chief of the emollient Tribe. The Seeds afford an excellent Medicine, since from them is expressed an Oil, which is anodyne, demulcent, and extremely adapted to all manner of Asperities; it relaxes, and involves Acridities, whence it is of extraordinary Service in the most desperate Colics. The stiff and rigid Limbs, being anointed with this Oil, are relaxed and rendered flexible. This Oil, when fresh-drawn, and taken at the Mouth, is very good in a Pleurisy, and a Cough, to help Expectoration; and, injected in Clysters, is very proper in the Hæmorrhoids, and indurated Fæces, whence proceeds the Colic; mixed with sealed and Japan Earth, it is a great Arcanum in the Dysentery. An Emulsion of the Seeds is of Service in the Pleurisy and Peripneumony; the Oil is a very good Remedy against the Stone: The Seeds reduced to a Meal, and boiled and prepared in the Form of a Cataplasma, are apply'd to Tumors and Abscesses, in order to mollify and ripen them. The Seed, boiled in Water, makes a mild oily Decoction, prescribed to be drank as an Anodyne in Inflammations of the small Intestines, the Diarrhoea, the Dysentery, nephritic Pains, and Retention of Urine. The Oil, boiled with Honey, clears the Face and Skin of Spots, and all cutaneous Blemishes. The Leaves are emollient; and the Smell of the Flowers is not poisonous, as some Authors have written. To close all, we shall observe, that whereas Cotton can never be used about Wounds, on account of its denticulated Parts, which dispose to Inflammations; Linen, the manufactured Produce of this Plant, is, by its extraordinary Softness, Smoothness, and Flexibility, of all other Things, the best adapted to such Purposes. *Hist. Plant. ascript. Boerhaave.*

Flax has one Quality, which I do not find taken notice of by botanical Writers, which is, that the Herb infused in Water, as Ponds or Rivers, as it is practised in order to rot the Stem, and procure the Bark for mechanical Uses, communicates to the Water a very poisonous Nature, insomuch that Cattle, which drink of it, die; and the Fish, in such Waters, are poison'd. And I am inform'd, that there is an Act of Parliament now in Force, which forbids the Steeping of Flax in Ponds or Rivers, where it can have this Effect.

3. Linum; sativum; humilium; flore majore. *Bobart.*
4. Linum; sativum; latifolium; Africanum; fructu majore. *T. 339.*

5. Linum; perenne; majus; cœruleum; capitulo majore. *M. H. 2. 573.*

6. Linum; perenne; majus; cœruleum; capitulo minore. *M. H. 2. 573.*

7. Linum; maritimum; luteum. *C. B. P. 214. M. H. 574. Linum sylvestre. Dod. p. 534.*

8. Linum; Africanum; luteum; foliis conjugatis. *Ind. 120. Boerb. Ind. alt. Plant. Vol. 1. p. 284. See ÆGYPTIUM LINUM.*

LINUM MINIMUM. A Name for the *Lythymachia*; *annua*; *minima*; *Polygoni folio.*

LINUM UMBILICATUM. A Name for the *Omphalodes*; *Lustanica*; *Lini folio.*

Besides the foregoing Species of *Linum*, *Dale* mentions the following.

LINUM CATHARTICUM. *Offic. Linum sylvestre Catharticum. Ger. Emac. 560. Raii Hist. 2. 1076. Synop. 362. Linum pratense flosculis exiguis. C. B. P. 214. Tourn. Inst. 340. Chamælinum Clusii flore albo, sive Linum sylvestre Catharticum. Park. Theat. 1336. Alsine verna glabra flosculis albis vel potius Linum minimum. J. B. 3. 455. PURGING FLAX, or MILL MOUNTAIN.*

This is but a little Plant, seldom growing above a Span high, with slender round Stalks, having two small oblong Leaves at each Joint; the Tops of the Stalks are much branched, bearing several small, five-leav'd, white Flowers, which are succeeded by Seed-vessels, in Shape of the common Flax, but a great deal

less, including very little Seed: The Root is small and fibrous, perishing every Year. It grows frequently upon dry hilly Places, flowering in *June* and *July*.

This Herb is grown of late in great Request among the Vulgar; a Handful of it, boiled in Wine or Ale, and the Decoction drank, purges strongly; and is much commended against rheumatic Pains in the Lambs; as also for tertian and quartan Agues, and the Dropsy. *Miller's Bot. Off.*

This Plant is very bitter, and gives a faint-red Colour to the blue Paper: It is purgative, and a Febrifuge. *Martyn's Tournefort.*

The entire Plant, with the Stalks and Heads, infused at Night in White-wine, over hot Ashes, purges serous Humors with sufficient Strength.

The Herb may be taken, either bruised, or dried, and pulverized with a small Quantity of Cream of Tartar, and Aniseeds; and, thus prepared, it purges without Perturbation. *Raii H. P.*

I once knew an Instance of a Man, who took a Purge from a Quack, of an Infusion of this Plant; which, in a few Hours, swell'd him to such a Degree, that his ordinary Cloaths were not by much sufficient to cover him; and it was with some Difficulty, that he was recovered by more gentle Evacuations.

LIOBATOS. The same as LEVIRATA.

LIPA, λίπα. This Word is frequently used by *Hippocrates*, sometimes join'd with *λαιον*, and sometimes alone, to express Fat, or Oil. Fat Stools are, by this Author, esteem'd a Sign of Colliquation; and fat Substances, swimming in the Urine, in the form of a Spider's-Web, are condemn'd as Presages of a Consumption.

LIPARIS, λιπαρίς. The Name of a Fish, so pingulous, that it appears to consist of scarce any thing but Fat.

LIPODERMOS. The same as LEIPODERMOS.

LIPOPSYCHIA, λιποψυχία, from *λείπω*, to leave, and *ψυχή*, Life. A fainting Fit. See *SYNCOPE*.

LIPOTHYMIA, from *λείπω*, to leave, and *θυμός*, the Mind. The same as LIPOPSYCHIA.

LIPPA. The Sordes of the Eyes.

LIPPIA. This Plant was so named by the late Dr. *William Houston*, who discovered it at *La Vera Cruz*, in Honour to Dr. *Augustus Lippi*, a famous Botanist, who travelled to *Egypt*, and discovered many new Plants.

The Characters are;

It hath an anomalous Flower, consisting of one Leaf, which is divided into four Parts, and rests on the Embryo, which afterwards becomes the Fruit, having two Seeds, which are inclosed in a small Covering.

We know but one Species of this Plant at present;

LIPPIA *arborescens, foliis conjugatis, oblongis, Capitulis squamosis & rotundis. Houst.* Tree Lippia, with oblong Leaves, growing by Pairs, and having round scaly Heads.

This Plant, in the Country of its native Growth, commonly rises to the Height of eighteen or twenty Feet, and has a rough Bark: The Branches come out by Pairs opposite, as also the Leaves, which are oblong, pointed, and a little sawed in the Edges. From the Wings of the Leaves come out the Footstalks, which sustain many round, scaly Heads, about the Size of a large Grey-pea, in which are many small yellow Flowers appearing between the Scales, which are succeeded by the Seed-vessels.

LIPPITUDO. Lippitude. *Celsus* means by this an Ophthalmy, or Inflammation of the Eyes. See *OPHTHALMIA*.

LIPYRIA. A Species of Fever, in which the external Parts are cold, whilst the internal Parts seem excessively hot.

LIQUAMEN. The same as GARUM.

LIQUAMUMIA. Human Fat. *Rulandus.*

LIQUIDAMBRA. See the last Part of the Article AMBRA.

LIQUIRITIA. The same as GLYCERYRIZA.

LIQUOR MINERALIS ANODYNUS. *Frederic Hoffman* frequently recommends this Liqueur of his own Invention, which is very much celebrated in some Parts of *Germany*. I don't know, that he ever discover'd his Method of preparing it; but *Burgrave*, in his *Lexicon*, supposes it to be thus made:

Take of the best Oil of Vitriol, and *Indian Nitre*, each four Ounces: Distil the Spirit from a Retort by a Fire, gradually rais'd to a great Briskness, about the End of the Process: Pour two Ounces of this Spirit cautiously and successively into fifteen Ounces of highly rectified Spirit of Wine; then, by a careful Distillation, we obtain a highly fragrant and aromatic Spirit. But, in this Process, great Care is to be taken, that we neither fall short, nor exceed, in extracting the sulphurous Spirit, but endeavour to obtain the Whole of it as pure and genuine, as we possibly can; for, as soon as the Phlegm is about to rise with the crude acid Spirit, the Receiver is to be chang'd with all Expedition. But, as this sulphurous Spirit is not yielded entirely pure, and free from a Mixture of the crude and acid Spirit, it is to be rectified with an equal Quantity of Water, and duly shaken; by which means the acid Principle will subside in the Water, and the sulphurous Spirit be distill'd pure and unadulterated. When all

all this Spirit is obtained, and the Phlegm just ready to come over, the former is to be immediately removed, and kept in a Vessel carefully clos'd. The mild and soporiferous Virtue of this Spirit may be still heighten'd, if, before the Rectification with Water, we add to it some Quantity of the Oil of Cloves, which is to be duly mixed with it, by shaking both together in a glass Vessel, closed with a glass Stopper; for, by this means, the Acrimony of the Oil of Cloves is destroyed, especially if afterwards both are mixed with Water, and duly incorporated by shaking; for thus the gentle, mild, and ethereal Quality is intimately united with this Spirit. 'Tis a matter of no Importance, whether this Composition is the genuine, anodyne, mineral Liquor of *Hoffman*, since the former is equally efficacious with the latter, in its gently stimulating, carminative, antiseptic, diaphoretic, and anodyne Virtues.

LILION, λείων The Lily.

LITE, λίτῆ. The Name of a Plaster in *Galen*, L. 2. C. 2. de Comp. M. per G. consisting of Verdegrise, Wax, and Rosin.

LITHAGOGUS, from λίθος, a Stone; and ἄγω, to bring away. An Epithet for Medicines which expel the Stone.

LITHANTHRAX. A fossil Coal. See CARBO.

LITHARGIRITES ACETUM. Vinegar of Litharge. See ACETUM.

LITHARGYRUS. Offic. Schrod. 459. Worm. 135. Chult. 55. Aldrov. Mus. Metall. 18. *Lithargyrium*. Schw. 383. LITHARGE.

Litharge, Lithargyrus, sive Spuma Argenti Officinalis, was of two Kinds among the *Greeks*, differing only in Colour. One was yellow, called *Chrysis*, or *Lithargyrus Auri*; the other white, called *Argyris*, or *Lithargyrus Argenti*; and the same Distinction is still kept up. It is commonly made in those Furnaces in which Lead is separated from Silver, or where Silver is refined by Lead from the other Metals mixed with it.

When the Workmen design to separate Silver from the Lead or Copper contained in the same Ore with it, they first make a kind of Trough of Bone-ashes, in which they melt a great Quantity of Lead; and into this melted Lead they throw the Silver Ore to be purified, and continue to blow with Bellows, till all the Lead, mixed with the Copper or Lead contained in the Silver, swims on the melting pure Silver like Oil. Then they gradually blow this Lead toward the Sides of the Trough, and afterwards, cutting the Sides, the vitrified Lead runs down to the Ground; and there becomes Litharge, sometimes of a Gold, and sometimes of a Silver Colour; whence the Dealers in these Commodities have given out, that the one was made from Silver, the other from Gold, whereas the Difference consists only in having been more or less exposed to the Fire, or in having a greater or less Mixture of Copper.

Litharge is therefore nothing but vitrified Lead, either alone, or mixed with Copper: it is frequently used in Phytic in outward Applications, being mixed with oily Substances to make the Basis of most Plaisters, by reason of the emplastie Consistence, which this and other Recrements of Lead acquire, by being mixed and dissolved in Oils. It is of a drying, detergent, and gently astringent Quality; and for this Reason is used in incarning and cicatrizing Ulcers. It is prepared by being well levigated in a Mortar with clear Water, till all the Lead, which is not perfectly calcined, or other metallic Faces, fall to the Bottom, leaving the finer Parts incorporated with the Water, which, subsiding by Rest, are separated from the Water, and dried. This pure Litharge is used in the *Unguentum Nutritum, Desiccativum, Rubrum*, and *Apospatorium*; in the *Emplastrum Palmae, Diachylon simplex & compositum, Polychrestum* of *Charas*; and in Plaisters and Ointments of many other Dispensatories. *Geoffroy*.

LITHIASIS, λίθιασις. The Stone. It, also, signifies a Disease of the Eye. See CHALAZA.

LITHOBRYON. A Name for the *Coralloides*; *Cornea Corali referens*; *coracalis brevioribus*.

LITHOCOLLA. Offic. Math. 1390. THE STONE-GLUE.

Lithocolla, λιθοκόλλα, from λίθος, a Stone, and κόλλη, Glue, Stone glue, is a Mixture of Marble, or *Parian* Stone, with Bulls-glue. It is of Service, being applied with a heated Probe, in laying hold of the Hairs which incommodate the Eye [*τρίχας ἀνακόλλων τὰς ἐν ὀφθαλμοῖς*]. *Dioscorides*, L. 5. C. 164.

LITHOCOLUM. This should seem to imply the Method of making the Stone pass through the urinary Passage; or the Dissolution of it in these Parts.

LITHODENDROM. A Name for Coral.

LITHOFIDES, λιθοειδές. An Epithet for that Bone of the Skull called *Os Petrosom*.

LITHOLABON, λιθόλαβον, from λίθος, a Stone, and λαμβάνω, to lay hold of. A Name for the Forceps used in Lithotomy, for extracting the Stone.

LITHONTRIPTICUS, from λίθος, a Stone, and θρύπτω, to break. Lithontriptic. An Epithet for Medicines, which either

have, or are supposed to have, the Virtue of breaking Stones in the Urinary Passages.

LITHOPÆDION seems to import an Infant-stone; that is, a recent calculous Concretion.

LITHOPHYTON. See the Explication of Terms under the Article BOTANY. White Coralline is called *Lithophyllum, marinum, albicans*.

LITHOREOLEUCOIMUM *minimum, supinum Valvensum*. A Name, in *Ray*, for the *Leucoium saxatile, Thymi folio, hirsutum, caeruleo-purpureum*.

LITHOSPERMUM.

The Characters are;

The Calyx is quinquefid, being cut to the very Base, into five long and narrow Segments. The Flowers are small, monopetalous, Funnel-shaped, multifid, with wide Margins. The Seeds are very hard, smooth, polished, shining, and of a roundish Figure.

Boerhaave mentions two Species of this Plant; which are,

1. *Lithospermum*; majus; erectum. C. B. P. 258. *Tourn. Inst.* 137. *Boerb. Ind. A.* 190. *Lithospermum, sive milium Solis*. Offic. J. B. 3. 590. *Rai Hist.* 1. 503. Synop. 3. 228. *Lithospermum minus*. Ger. 486. Emac. 609. *Lithospermum vulgare minus*. Park. Theat. 432. GROMWELL.

The common Gromwell has a thick woody Root, shooting forth rough hairy Stalks, divided into several Branches, bearing rough, oblong, sharp-pointed Leaves; and among these a great many small monopetalous white Flowers, cut into five Segments, as are, also, the rough Calyces they are set in, in which, when the Flowers are fallen, grow four hard, shining, white Seeds. It grows in dry Fields and Hedges, and flowers in May. The Seed only is used.

Gromwell-seed is accounted a powerful Diuretic, and a Cleanser of the Reins and Ureters, being boiled in Wine or Water; and is of great Service against the Stone, Gravel, or Stoppage of Urine; as, also, against the Heat of it, and a Gonorrhoea. *Matthioli* commends two Drams of the Powder to be given in Womens Milk, as a speedy Help in hard Labour. *Miller's Bot. Off.*

This Plant gives hardly any Tincture of Red to the blue Paper; it is astringent and glutinous; the Fruit stains it a little.

The Leaves of Gromwell, by chymical Analysis, yield no volatile concrete Salt; but an urinous Spirit very much loaded with it, and a great deal of Oil and Earth: All that is obtained from the Seeds is alkaline; they yield some volatile concrete Salt, and a great deal of Oil and Earth; they are very diuretic: Emulsions are made of it with Dog's-grass Water; infuse half an Ounce of the Seeds, bruised, a whole Night, in a Glass of White-wine, and give it to drink in a Morning fasting. *Martyn's Tournefort*.

2. *Lithospermum*; minus; repens; latifolium. C. B. P. 258.

LITHOSPERMUM, ARVENSE. A Name for the *Heliotropium*; minus; angustifolium; arvense; seu hirsutum.

LITHOSPERMUM, PALUSTRE. A Name for the *Heliotropium*; minus; angustifolium; palustre, seu glabrum.

LITHOSPERMUM ARUNDINACEUM. A Name for the *Lachryma Jobi*; which see.

LITHOTHILASPI. A Name for the *Thlaspi*; parvum; saxatile; flore rubente.

LITHOTOMIA, λιθοτομία, from λίθος, a Stone, and τέμνω, to cut. Lithotomy, that is, Cutting for the Stone. See CALCULUS, CATHETER, and CATHETERISMUS.

Mr. *Sharp* lays down the following Method of searching for the Stone: The Patient being laid on an horizontal Table, with his Thighs elevated, and a little extended, pass the Sound with the concave Part towards you, till it meets with some Resistance in *Perineo*, a little above the Anus; then, turning it without much Force, push it gently on into the Bladder; and, if it meets with an Obstruction at the Neck, raise its Extremity upwards, by inclining the Handle of it towards you; or, if it does not then slip in, withdraw it a Quarter of an Inch, and, introducing your fore Finger into the Rectum, lift it up, and it will seldom fail to enter: There is some Art in turning the Sound in the proper Place of the Urethra, which Surgeons, not vers'd in this Operation, cannot so well execute, therefore they pass the Instrument, with the concave Side always to the Abdomen of the Patient, observing the same Rule at the Entrance into the Bladder, as in the other Method. The Cause of this Obstacle is frequently a small Projection of the Orifice of the Bladder, like that of the *Os Tince* in the *Vagina*, which occasions the End of the Sound to slip a little beyond it.

'Tis not to be supposed, that, by searching, one can positively judge of the Size and Form of a Stone; and indeed the Frequency of the Fits, and Violence of the Symptoms, are a better Rule to go by; though whoever shall think himself capable of distinguishing, absolutely, the Difference of Stones, even by these Circumstances, will sometimes be mistaken; since the Frequency and Violence of the Pain depend not always merely upon their Magnitude or Shape; and there are some Instances where a Stone

of six Grains Weight has, for several Months, given more Pain in one Person, than a much larger has in another, though, no doubt, *ceteris paribus*, a large or a rough Stone is worse than a small or a smooth one.

Though, upon searching, we are assured of a Stone in the Bladder, we are not, without farther Inquiry, to operate immediately, since there are sometimes Obstacles that forbid the Operation, either absolutely, or only for a certain time: Among these that of greatest Consequence is the Gravel, or Stone in the Kidneys, which is known by the Pain in the Loins, Vomitings, Retractions of the Testicles, Numbness of the Thighs, and often by Matter which the Inflammation produces in the Kidneys. The Objections of less Weight, and which frequently are removed, are a Fit of the Stone, a Cough, a Hætic, and being emaciated by long Pain; excessive hot or cold Weather are likewise Hindrances; but, in Extremity of Danger, these last Considerations may be disregarded, though no doubt very hot Weather is more inconvenient and dangerous than cold, as lying in Bed is more troublesome, and the Urine much saller.

Difference of Age makes an extreme Difference in Danger, Infants and young People almost always recovering; but still the Operation is advisable in those advanced in Years, though it is not attended with near the same Success.

Before the Operation is performed, it will be proper to prepare the Patient with a gentle Purge the preceding Day, and a Clyster early in the Morning, which will be of great Service in cooling the Body, and making the Operation less dangerous, where the Rectum is liable to be wounded, when full. *Sharp*.

THE SEVERAL METHODS OF LITHOTOMY.

With respect to the several Methods of performing Lithotomy for the Stone in the Bladder, they are four. The first and most ancient, is the *Apparatus minor*, called likewise the *Celsian* or *Guidonian* Method. The second the *Apparatus magnus*, or *Marianus's* Method. The latter is likewise termed the New, and the former the Old Method. The third is the *Apparatus altus*, or *Scissio Hypogastrice*, or *Franconica*: By this the Incision is made at the lower Part of the Abdomen, in the anterior Side of the Bladder, immediately above the *Os Pubis*, whereas, in the rest, it is made in the *Perineum*, between the *Anus* and *Scrotum*. The fourth, and most modern, was invented towards the End of the last Century, and is termed the lateral Operation, *Frere Jacques's*, or, sometimes, *Rau's* Method. We shall treat more particularly of each in its proper Place.

The most convenient Season for the Performance of this Operation is Spring, or Autumn; though when the Patient is in exquisite Torment, and, perhaps, his Life in Danger, a prudent Surgeon will embrace the present Opportunity.

The Patient should observe a regular Course of Diet for some time; and, if an Adult, of a full Habit, be bled, which is unnecessary in Boys; though the Body should be kept open in both. The Administration of a Clyster the Evening before, or on the same Morning, will prevent any Impediment from a Discharge of the Fæces. A weak Patient should be supported by proper Medicines, and a nourishing Diet. Three or four Hours before the Operation, he may have a Couple of new-laid Eggs, poached soft, with some Wine, but one is sufficient for a Boy. Lastly, if there are any Hairs on the Perineum, they must be shaved off.

OF THE APPARATUS.

The *Apparatus minor* requires a Knife, (*Tab. XLVIII. Fig. 8.*) or Razor, an Hook, (*Fig. 10.*) or Forceps, the T Bandage, a thick square Compress, about four Fingers broad, some Lint, and styptic Powder, or rather highly rectified Spirit of Wine, to suppress an Hæmorrhage, and a crooked Needle and Thread.

The Posture of an Adult, in this Method, is represented *Tab. L. Fig. 5.* If a Child, therefore, is to be cut after this Method, he is to be secured in that manner, or held by two Assistants; the strongest must be seated on an high Chair, holding on his Knees a Pillow, covered with a Linen Cloth, three or four times double, and hanging down to his Feet. The Boy must be placed on this Pillow, and secured, as we have represented at *Tab. XLIX. Fig. 1.* from *Toilet*: If he is strong, another Assistant may hold his Arms, to prevent his moving. If tall, or near Fourteen, let him be placed as at *Tab. L. Fig. 5.*

The Patient being thus disposed, the Surgeon dips the middle and fore Finger of his Left Hand in Oil; then introduces them into the Anus, thrusting it upwards, whilst, with his Right Hand, he presses on the Region of the Pubes, and, having found the Stone, protrudes it to the Left Side of the Perineum, near the Anus, and there holds it, in such a manner as to form by it a Tumor in the Perineum (see *Tab. L. Fig. 5. A*). He then makes an Incision into the most prominent Part, with his Knife, dividing the Integuments and Bladder, sufficiently for the Extraction of the Stone: But Care must be taken, to leave none of the intermediate Parts cohering, that the Stone may have a free Passage, and the Patient not be unnecessarily tormented, nor an Inflammation or Convulsions excited, from a Contusion and Laceration of the Parts. The Bladder being thus divided, a small Stone may be thrust out by the Fingers in the Anus; a large or rough one, partly by them, and partly by the Hook B, *Fig. 6.* applied to the upper Part. If it slips back, or sticks in the Wound, it may be extracted by the Forceps.

When the Stone is thus extracted, a Finger, Catheter, or Probe, should be introduced into the Bladder, (*Tab. XLVIII. Fig. 11.*) to search whether any Fragments remain there; for this will often happen, when the extracted Stone appears to be smooth, or is broken in the Operation. If any thing is left, it must be extracted by the Fingers, an Hook, Forceps, or the Extractor: If all is found clear, the Patient is put to Bed. For the subsequent Treatment, the Reader may find Directions under the *Apparatus magnus*.

HEISTER'S OPINION OF THIS METHOD.

This Method is now entirely laid aside, though, in my Opinion, it is practicable on Boys under Fourteen, the Time limited by *Celsus* and *Albucasis*; because in them the Stone may be brought to the Perineum: Besides, the Simplicity of it, with its Success, is to me a Recommendation; for it has many Advantages over the Apparatus major, and lateral Operation, as it may be always performed with fewer Instruments, and often with the Knife only; and then the Urethra is not injured by the Catheter, nor the Bladder vellicated by the Forceps; and the Stone is more easily found and extracted; whereas, in the others, the most experienced Lithotomists sometimes cannot find it: And, lastly, it gave Birth to the lateral Operation. For *Celsus* directs the Incision to be made in the Integuments, near the Anus; and *Albucasis* says, the Stone must be protruded to the Root of the Coxa, and the Incision must be afterwards made there. In these Cases, therefore, I still practise it on Children; and *Marianus* recommends it: It may, also, be performed on Adults, when the Urine is suppressed by an Adhesion of a Stone in the Neck of the Bladder, or in the Perineum, which cannot be removed, either by internal Medicines, or the Catheter: Otherwise it is dangerous, in Adults.

MR. SHARP'S OPINION.

This Way of Cutting was attended with many Difficulties, for want of proper Instruments to direct the Incision, and extract the Stone, when it lay beyond the Reach of the Fingers, which in a large Bladder was frequently the Case; so that it is strange *Celsus* confin'd the Operation to the Age between Nine and Fourteen, since it is much easier to be performed in Infancy than at those Years; and it plainly appears, from his Account of it, that many died from the Violence done to the Bladder, in endeavouring to bring the Stone forwards, though the Operators failed in their Attempt, and the Patients were not cut.

The Wound of the Bladder in this Operation is made in the same Place as is now practised in the lateral Method; but as being impracticable on some Subjects, and uncertain in all others, has made it universally exploded; so that nobody now makes an Incision without the Direction of a Staff, unless a Stone entirely prevents the Introduction of it, by pressing against, and stopping up the Neck of the Bladder; and in this Case, when we cut directly upon the Stone, it is much safer to push it back farther into the Bladder, and lay hold of it with the Forceps, than to endeavour with the Scoop, or Fingers, to force it outwards; which Circumstance alone makes it different from *Celsus's* Method. It must be distinguished, however, when I speak of pushing the Stone back, that I suppose it in the Neck of the Bladder; for it frequently happens, that it lies at the Extremity of the Urethra, on the Outside of the Bladder; in which Case the Wound of the Urethra may be made large enough to turn it out with the Fingers, or the End of some slender Instrument.

OF NEPHROTOMY.

The Generality of Writers on this Subject seem to think Nephrotomy impracticable, and therefore absolutely reject it, though we have many Instances of Persons who have been cured of Wounds of the Back, penetrating to the Kidneys. I shall only mention one, of a Man wounded in his Back, on the Region of the Right Kidney, in the Year 1735. who for several Days voided Blood, and bloody Urine, through the Wound and Urethra: When he came afterwards under my Care, I cured him in four Weeks. Wounds, therefore, of the Kidneys, especially those inflicted on the Back, without penetrating into the Cavity of the Abdomen, are often curable: And tho' *Hippocrates* prohibits his Pupils from practising Lithotomy; yet, in treating of Disorders in the Kidneys, in his Work *de intern. Affect.* he directs to make an Incision near the Kidney, when it is tumefied and elevated; and, after extracting the Pus, to discharge the Gravel by Diuretics; for this Opening may preserve the Patient, who must otherwise die: And again he says, when the Kidney, being suppurated, tumefies near the Spine, a deep Incision should

be made upon the Tumor near the Kidney, or into the Kidney itself: Hence it is manifest, that a Wound in these Parts did not appear to be formidable to him. *Rouset*, *Riolanus*, and others, think Nephrotomy may be practised with Success, if the Opening is made, where the Stone is perceptible, and neither the emigrant Artery, Vein, nor Ureter, wounded, nor the Cavity of the Abdomen penetrated: But, beyond all Dispute, it must be reasonable, when Nature points out the Place by a Tumor, or Abscess in the Loins, proceeding from a Stone in the Kidney. We are farther supported in this Opinion by *Schenblius*, *Wedeius*, *Meekren*, and *Lavaterus*; the last of whom says, "I perform Nephrotomy, when Nature dictates, by an Abscess." I, therefore, recommend it in these Cases, as it preserves Life, and prevents excessive Pains arising from the Stone, which may be extracted by the Fingers, an Hook, or Forceps. See *Fontan. Exemp.* 42. *Fol.* 117. *Hildan. Cent.* 6. *Obs.* 44. *Tulpius, Lib.* 4. *Obs.* 28. *Heister.*

It is plain from what *Secapion* and *Avicenna* say of Nephrotomy, that it was practised by some in their Times, tho' they both think the Operation extremely hazardous, and most likely to end in Death. And whatever has been said, concerning the Fatality of those Wounds, which penetrate the Pelvis of the Kidney, we find it clearly contradicted by the late learned *Mr. Bernard*, in the Case he gives us of Consul *Hobson*, who had a Stone cut out of his Kidney, by the famous *Dominico Marchetti*, at *Palua*, and lived many Years after in perfect Health. The Case is very accurately described, and the Reflections upon it worth perusing: The same Account informs us, that the *Arabians* mention indeed such an Operation; but think it the Attempt of a Madman, or a Mountebank, and that *Rouset* was the first who ever seriously advised it. However, besides the Instance alleged, there is one more to be met with of this Operation of Nephrotomy being actually performed; and that is in *Mezeray's History of France*, where the Fact is related thus:

"The Doctors of the Faculty of Physic at *Paris*, knowing that an Archer of *Bagnolet*, who had been very much afflicted with the Stone, lay under Sentence of Death, begged of the King, that he might be put into their Hands, to make an Experiment, whether they could open the Kidney, and take out the Stone. The Operation succeeded so well, that the Man lived many Years after in good Health."

This was done in the Reign of *Charles* the Eighth, who died in 1498. near 100 Years before *Rouset* wrote, and when the *French* Surgery was just in its Dawn. *Tulpius* is of Opinion, that the Advice of *Rouset* was founded upon what has been observed sometimes, of a Stone's making an Abscess in the Kidney, and working its Way out, as, in the Case he describes, it did in the Loins; and which indeed *Hippocrates* takes notice of. But it is as probable, he might have taken his Notion from this Matter of Fact, which, no doubt, had made a Noise in his own Country; and which *Rouset* himself relates, though he tells the Story (from the Supplement to *Monstrelet*) otherwise, in one or two Particulars. Tho' these two Instances (which, perhaps, are the only two upon Record) will scarce recommend the Practice; yet thus much at least may be concluded from them, that the Operation, tho' dangerous, may possibly succeed, and is allowable, at least, in Cases otherwise desperate, where the Way is pointed out by an Abscess. The Arguments drawn from Analogy, by *Rouset*, are worth perusing. *Freind.*

OF THE APPARATUS MAJOR.

The preceding Method is practicable on Infants only, but attended with great Danger and Difficulty, when attempted on Adults: For an unequal and rough Stone, protruded to the Side of the Perinaum, puts the Patient to exquisite Torture; and frequently causes a violent Inflammation, with a subsequent Gangrene, and, by making the Wound uneven, renders the Extraction difficult. Besides, the Operator may perforate the Rectum, or hurt his own Fingers, and be thereby disabled from feeling the Stone, and cutting upon it. Again, if the Patient is corpulent, the Size of the Bladder, and its Distance from the Anus, will make the Promotion of the Stone to the Perinaum a very great Difficulty, especially if it slides back; and the Retention of it there (considering the Lubricity of the Bladder and Rectum) for a proper time will not be an easy Task. These Inconveniences, to omit the Possibility of wounding the femoral Vessels on the Left Side, induced the Surgeons, about the Year 1520. to invent another Method, with new Instruments, which has been practised with such Success, that it is generally preferred, unless the Stone is lodged in the Perinaum, or in the Neck of the Bladder, or posterior Part of the Urethra, and can neither be repelled, nor discharged forward. This Invention is ascribed to a celebrated *Italian* Physician of *Cremona*, *Franciscus de Romanis*, or *Romano*, and improved by *Marianus*, in a Treatise de *Lapide Vesicae per Incisionem extrahendo*, *Venet.* 8vo. 1532. and *Cap.* 10. 1540. From him it is called *Marianus's Method*, and, from the Number of Instruments, the *Apparatus Magnus*; but it is now sometimes termed the *vulgar* or *old Method*.

The Cause of this Invention may be ascribed to an Observation, how easily large Stones are voided by Women, either naturally, or by Art: For *Romanus*, considering the Shortness and Dilatibility of the Urethra in them, imagined, that, by an Opening made in the Urethra of Men, near the Bladder, it might be dilated, and the Stone extracted with equal Ease; for at that time, from the Authority of *Hippocrates*, it was esteemed mortal, and, therefore, criminal, to cut into the Bladder. See *Aph.* 18. *Lib.* 6. and *Celsus, Lib.* 6. *Cap.* 26. Tho' *Falconet*, a Physician of *Paris*, thinks it was not the Author's Intention to cut into the Urethra, but into the Neck and Bladder itself. This Operation, with regard to the Urethra, converts the Male Subject into a Female, and he is treated as such: For a longitudinal Incision is made into the Perinaum, from the Scrotum to the Anus, resembling, as it were, the Entrance of the Vagina, or, at least, serving instead of it. A Passage for the Urine is then opened in the Perinaum, from D to F, or I, *Tab. L. Fig. 1.* so that there remains but a short Part, I L, entire, between the Lips of the Wound and the Bladder, as in Women; which Part being sufficiently dilated with proper Instruments, the Stone may be extracted out of the Bladder by convenient Hooks, or Forceps. It was necessary, therefore, to contrive a Set of Instruments for the dextrous Performance of this Operation: Accordingly the Author invented the groov'd Catheters, to make the Incision safe; then Conductors, and dilating Instruments, to make way into the Bladder; and a Forceps, for the Extraction of the Stone. All which, as appears from *Marianus*, and is usual in the Beginning of most Inventions, were but indifferently fitted for their Offices; but, from many subsequent Improvements, they seem to have acquired a great Degree of Perfection: Though some of the Instruments employed in the Apparatus minor may be used in this Method.

In the Apparatus major the following Instruments are principally necessary; Copper or Silver Catheters of various Sizes and Diameters, according to the different Age and Make of the Patient, to search for the Stone (see CATHETERISMUS, and the Explanation of *Tab. XLVIII. Fig. 2, 3, 4, 5.*): But there are, also, required grooved Catheters made of Steel of various Sizes, (*Tab. XLVIII. Fig. 12, 13, 14, 15.*) and a particular sort of Knife, (*Fig. 8.*) for the Incision, which should be wrapped up in Linen, (as at *Fig. 9.*) leaving its Point only uncovered, and two ensiform Conductors (*Tab. XLIX. Fig. 2, 3.*): One has a Beak A, and is called the Male; the other is divided at one End B, and termed the Female; each has two Handles CC. Some prefer the simple-groov'd Conductor of *Hildanus*, called a *Gorget* (*Fig. 4.*). There is, likewise, wanting a particular kind of Forceps, (*Fig. 5, 6, 7.*) of different Sizes and Figures; some strait at the Mouth, (*Fig. 5.*) others crooked (*Fig. 6.*); and an Hook, (see *Tab. XLVIII. Fig. 10.*) smooth externally, but internally rough, which is to intercept the Stone: To these must be added an oblong Spoon, *Fig. 11 A A* with a Button B, instead of a Probe; some call this *Lapidillum*, but *Marianus*, *Verriculum*; because it cleanses the Bladder from any small Fragments. Lastly, When the Stone is large, some will use a Dilator; but as this is not very common, out of the various Kinds I have only delineated one (at *Tab. XLIX. Fig. 8.*): Some put all these Instruments into a Pouch, and tie it round their Waist (*Tab. L. Fig. 9. H.*): Others place them in a Dish, full of warm Water, in the most convenient Order, or only dip them into it before they use them: A Sponge likewise is necessary, for clearing away the Blood from the Wound; with an Apron and Sleeves, to keep the Operator clean. The Dressings may be the same as we directed for the Apparatus minor: Lastly, There should be at hand a Cup with Olive-oil to lubricate some of the Instruments, that they may pass with more Ease into the Bladder.

In most Hospitals there is a particular kind of Table for this Operation (*Tab. XLIX. Fig. 9.*). The Manner of placing the Patient is represented from *Alghisi*, an *Italian* Author, *Tab. L. Fig. 9.* Sometimes a proper Chair, one or two of which are represented by *Tolet*, is used instead of the Table: But, if neither of these is at hand, a common oval or square Table, about four Feet long, and three broad, will answer the End; upon this should be placed a kind of inverted Chair, with the Back thereof depressed, and the Legs elevated, and not only the Edge of the Table B, (*Tab. XLIX. Fig. 9.*) but the whole inclined Part C, should be covered with Pillows and Linen, for the Patient's Ease: He is to be seated on the Edge B, which I make semilunar, whilst the inclined Part C supports his Back: Then his Legs are to be bent in such a Posture, that his Heels may reach his Buttocks A A, and his Hands tied, either to his Ankles, or after *Rau's* Method, to the Outside of his Knees (see *Tab. L. Fig. 9. 10.*).

Four strong Assistants are necessary for this Operation, two of whom CC are to secure and open the Legs, each holding a Foot in one Hand, and a Knee in the other; the third is to confine his Shoulders close to the Table; and the fourth to be so situated on his Right Side, that he may hold up the Scrotum with one Hand, and the Catheter in the other: A fifth may stand on the Right Hand of the Surgeon, to give and receive the Instruments. Sometimes three are sufficient, (*Tab. L. Fig. 9.*)

two to hold the Legs, and a third to elevate the Scrotum, and extend the Skin of the Perinæum.

There should be a Vessel to receive the Blood and Fæces; near that a Cup of Oil, with a Pan of hot Water, to lubricate, warm, and wash the Instruments; and a Sponge to cleanse the Wound.

Mr. *Sharp's* Directions for the Situation of Patients are thus: Having laid the Patient on a square horizontal Table, three Feet four Inches high, with a Pillow under his Head, let his Legs and Thighs be bent, and his Heels made to approach his Buttocks, by tying his Hands to the Bottom of his Feet, with a couple of strong Ligatures about two Yards long; and, to secure him more effectually from struggling, pass a double Ligature under one of his Hams, and carry the four Strings round his Neck to the other Ham; then, passing the Loop underneath it, make a Knor, by threading one of the single Ends thro' the Loop: After this the Thighs are to be widen'd from each other, and firmly supported by proper Persons. *Sharp.*

The Operator dipping the Beak of a sizeable, steel, grooved Catheter in Oil, he conveys it through the Urethra into the Bladder; and, being assured there is a Stone, turns the crooked Part of the Catheter in the Bladder and Urethra, towards the Left Side of the Perinæum, but the Handle and Penis, which contains it, towards the Right Inguen; then delivers it to the Assistant, who holds up the Scrotum in the other Hand; for the crooked Part of the Catheter, thus elevated in the Perinæum, renders that Part of the Urethra, which is to be divided, sufficiently perceptible to the Sight and Touch. He next lays hold of the Integuments of the Perinæum with the Fingers of his Left Hand, holding in his Right the Knife, wrapped in Linen (*Tab. XLVIII. Fig. 9.*) as you would a Pen for Writing: With this he makes a longitudinal Incision downwards, about the Middle of the Left Side of the Perinæum, near the Suture, thro' the Fat; then he again feels for the Catheter with his Finger, and then he divides the Urethra in a direct Line downwards, so that the End of the Knife may pass into the Groove of the Catheter; for thus there will be no Danger of injuring any Part besides the Urethra; for the Neck of the Bladder must not, in this Method, be injured. Some make their Incision from the Middle of the Perinæum downwards, and others proceed in the contrary Direction; but this seems indifferent. The external Orifice should be proportion'd to the Patient's Habit, and the Size of the Stone; tho' it is generally about two Inches long in Children, and three or four in Adults. The Opening in the Urethra is continued (*Tab. L. Fig. 1.*) from D thro' the Bulb E to the Beginning of the Neck of the Bladder F or I. When this inferior Part of the Urethra is to be divided, not only the Hand and Knife must be moved, but the Catheter, which had hitherto been pressed downwards, must, according to *Chefelden* and *Le Dran*, be elevated, and the Beak pressed strongly against the Junction of the Ossa Pubis; for this separates the Urethra, as much as possible, from the Rectum, which might otherwise be wounded. Care must be taken, that the Point of the Knife does not slip out of the Groove of the Catheter. Some hold the Catheter in their Left Hand themselves, while the Assistant, who draws up the Scrotum, extends the Integuments of the Perinæum. But this is left to Discretion.

After a proper Incision, the Surgeon parts with his Knife, inserting in the Groove of the Catheter, if an Assistant holds it, the Nail of his Left fore Finger or Thumb; then he takes a Male-conductor, dips it in warm Oil, and, having passed it through the Groove of the Catheter, and Neck of the Bladder, into the Bladder itself, extracts the Catheter. Some leave the End of the Knife in the Groove, till they have directed the Conductor thither; for in corpulent Persons the Catheter may be buried in Fat. The Male-conductor being thus passed, a Female-conductor is introduced upon it in such a manner, that the latter receives the prominent Back of the former in its Groove B, (*Tab. XLIX. Fig. 2, 3.*) and conveys it safely into the Bladder thro' its Neck. After this, the two Conductors are gently separated by their Handles C C, which dilate the Neck of the Bladder; then a strait Forceps warm, dip't in Oil, and shut very close, is carefully conveyed into the Bladder between the Conductors: This, in some measure, dilates the Neck again. But I introduce my Right fore Finger dip't in Oil, before the Forceps, and gently enlarge the Neck of the Bladder, which facilitates the Admission of them. If the Forceps will open easily, it is a certain Indication, that they are in the Bladder. Some, before the Introduction of the Female-conductor, pass their Right fore Finger into the Bladder upon the Male, turning it with the flat Side upwards, and prominent Side downwards; and by that means endeavour to dilate it. But *Le Dran* justly observes, that the precipitate Method of doing this, which some, thro' an Affectation of Dexterity, are drawn into, frequently lacerates the Part, already filled with the Conductor. Others proceed in a different manner, using only the grooved Conductor (*Tab. XLIX. Fig. 4.*): These pass the Beak of that

Instrument thro' the Groove of the Catheter, into the Bladder, as we directed for the Male-conductor; only some assist it with their Finger. If the Instrument is passed into the Bladder, what Urine there is, will discharge itself thro' its Cavity. Upon this Discharge, the Catheter is extracted out of the Urethra, and the Operator, moving the Instrument gently in all Directions, gradually dilates the Neck of the Bladder; then he takes the Handle B B in his Left Hand, and with his Right carefully conveys the closed Forceps thro' the Groove C C.

Le Dran, who prefers the grooved Conductor, having passed it into the Bladder, gently thrusts his Right fore Finger through the Wound and Neck into its Groove, and with that gradually dilates the Neck, for the more commodious Passage of the closed Forceps, which he afterwards introduces, as I had before recommended; though, perhaps, he might be the first who observed, in his Dissections, that the whole Neck of the Bladder was not only expanded, but constantly slit and lacerated in the Apparatus major; which yet was attended with no ill Consequences, when done gently and cautiously, as it opens a freer Passage for the Admission of the Forceps, and Extraction of the Stone*. And this Laceration is less to be feared, since we are convinced by opening dead Bodies, that either by the Introduction of the Forceps, or the Expansion of the Parts, or the Extraction of the Stone, there is a more violent and dangerous Laceration of the Neck, and Prostate Gland.

The Forceps, after it is introduced, and the Conductors withdrawn, must be opened several times to dilate the Wound, and then shut again to search for the Stone: During which Search, they must be kept close, lest they injure the Bladder; for which Reason they must not meet at the End (*Tab. LII. Fig. 12.*). When the Stone is found, they must be opened with both Hands, in such a manner, that one Jaw, if possible, may lay hold under the Stone, and the other above it. When the Stone is thus intercepted, the Forceps, by a gentle Motion from Side to Side, must be brought towards the Rectum, and the Stone extracted downwards, because the Parts dilate and yield more easily that way, while upwards they meet with a Resistance from the Ossa Pubis. This is no Difficulty, when the Stone is neither large, nor unequal. But if it lies concealed in any Pit of the Bladder, and cannot be laid hold of by the Forceps, the Operator must pass the two first Fingers of his Left Hand into the Anus, elevate the Stone, and force it into them. If it is situated in the upper Part of the Bladder, behind the Ossa Pubis, the inferior Part of the Abdomen must be pressed down by the Hand, that it may be commodiously taken hold of, and drawn out by the strait or crooked Forceps. But if it is lodged on either Side, the crooked Instrument (*see Tab. XLIX. Fig. 6.*) is most convenient. Since it is always best to extract the Stone whole, if possible, the Surgeon, by putting his Fingers between the Handles, may prevent too violent a Compression of the Forceps. When *Le Dran* cannot immediately find the Stone with the Instrument, he withdraws that, and introduces his Finger; then, having found it, places it at the Mouth of the Urethra, and, passing his Forceps, extracts it.

If the Handles of the Forceps D D, after intercepting the Stone, open too wide, it cannot be extracted without imminent Danger of lacerating the Bladder, particularly its Neck, and the Prostate Gland. The Surgeon must then introduce his Finger, and, if that is not sufficient, the Probe, with a Button (*Tab. XLVIII. Fig. 11. B.*); and examine between the Jaws of the Forceps, whether the Stone is oblong or oval, and whether the Instrument takes hold transversely, or longitudinally. If it is intercepted transversely, it should be let loose, and, after moving it with the Finger or Probe, taken hold of in its least Diameter, and extracted: If the Instrument still opens too wide, he must take the Handles D D in his Right Hand, and the Part next the Wound in his Left; then, by a gentle Motion downwards, as those Parts dilate more easily, endeavour to extract the Stone. When it is too large to be extracted whole, it must be broken by a Forceps with Teeth, (*Tab. XLIX. Fig. 7.*) which may be as large again as the Figure, and the Fragments may be drawn out one after another. Lastly, if the Stone is too large, and too hard to be either extracted or broken, a prudent Surgeon will desist, and heal the Wound, or leave a Fistula for the Discharge of the Urine. Some few, but with very little Success, use the Dilator (*Tab. XLIX. Fig. 8.*) or some such Instrument, tho' the Moderns reject it as useless and dangerous: For the Dilatation made by it must necessarily, by lacerating and confusing those nervous Parts, augment the Pain, which is already excessive, and cause an Inflammation, Gangrene, Cancer, or some other malignant Symptoms. Sometimes the Stone lodges too near the Joint of the Forceps, (*Tab. XLIX. Fig. 5.*) so that the Jaws cannot sufficiently approach each other; in this Case the Operator must introduce the Button-end of the Scoop (*Tab. XLVIII. Fig. 11*) or his Finger, and thrust it back near the End of the Jaws: But this may be pre-

* It is not agreed, what Parts are to be divided in the Apparatus major. *Tolet*, and the Generality of Lithotomists, are for dividing the Urethra only, without cutting the Bladder, or its Neck. *Falconet* says, the Authors of this Method designed the Neck, and even the Bladder itself, should be cut. *Noelus* expressly tells us, that the Neck of the Bladder is the Part, where the Incision is constantly made in this Operation; and that *Frere Jaques's* Method differs from the Apparatus major only in the Parts externally divided. *Rosa* orders the Sphincter that is, the Neck of the Bladder, to be cut; and *Schoeffer*, not only the Neck, but part of the Bladder itself.

vented, by making the Instrument smooth in that Part, with Teeth only at the End (see *Tab. XLIX. Fig. 5, 6. A B*); for then the Stone will spontaneously recede from the Hinge, and stick betwixt the Extremities.

Francus de Franckeneau, mentions a Machine used by a Lithotomist at the *Hague*, instead of the Forceps, which was made of Whale-bone and an Ox's Bladder; but he neither describes the Size, Structure, nor Manner of using it.

The Stone being thus extracted, the Surgeon must, especially if it is a smooth one, search with his Finger, or the Probe-end of the Scoop, whether another, or any Fragments still remain, which he could not determine before the Operation. If there is any Remainder, he must repeat the former Process, till the Bladder is entirely cleansed. If there remain only some Gravel, or small Pieces of the Stone, they may be extracted by the Scoop, (*Tab. XLVIII. Fig. 11.*) or in a weak Patient, the Expulsion of them may be left to Nature, for the Urine will generally discharge and wash them out. When the Bladder is cleared, some insert into the Wound a large Tube (see *Tab. XXIII. Fig. P*) either flexible or inflexible; others a Tent, applying a Plaster, Compress, and the T Bandage, by which they imagine the Bladder will be more effectually cleansed from the Sand and other Fæces. But this appears to *Frere Jacques, Rau*, and myself, quite unnecessary; for these things retain what the Urine would wash away, and often produce a Fistula, with other bad Symptoms. In extracting the Stone, it sometimes slips out of the Forceps, and lodges in the Wound: The Lithotomist should then endeavour to lay hold of it again, without extracting the Forceps; but, if they are out, he must immediately introduce his two fore Fingers, dipt in Oil, into the Anus, to press it towards the Wound, and then extract it with the Forceps, or an Hook.

MANNER OF DRESSING.

When the Wound is cleaved with a Sponge, and the Ligatures untied, the Patient must be put into a Bed covered with an Oil-cloth, or one that has been waxed; over this may be laid a Linen Sheet folded together directly under the Patient, to keep the Bed from being spoiled by the Blood or Urine from the Wound, which is now to be dressed with some Dossils of scraped Lint. If the Patient is strong, and his Wound bleeds, *Celsus* advises not to suppress it for some Days, as it may prevent an Inflammation; but, if the Hemorrhage is too profuse, it may be stopt by Pledgets of Lint dipt in the best rectified Spirits of Wine, or some other styptic Liquor; or the Wound may be sprinkled with a styptic Powder, and the Arteries compressed with the Fingers, till it abates: These must be covered with a Linen Bolster, and large square Compress, without a Plaster, securing the Whole by the T Bandage, (*Tab. XXIII. Fig. b*) or that with four Heads (*Fig. d*). If they are ineffectual, the Artery may be tied up with a crooked Needle and Thread*. Nor is the Practice of the *French* improper, who anoint at Intervals the Scrotum, Perineum, and Abdomen, for the first four Days, with Oil of Roses, covering the Parts with Linen dipt in Oxycrate; before the Application of the Bandage some only apply Oxycrate, with a large Compress to the Abdomen. Many make a strict Bandage at the first Dressing, tho' there is no Hemorrhage, for this, say they, promotes the Agglutination of the Wound; others leave it slack for two or three Days, that the Gravel, Fragments, and Blood, may have a free Passage; and others, for the same Reason, use no Bandage, unless too great an Hemorrhage renders it necessary. They who follow the first Method, bind the Patient's Legs together at his Knees, at first. But they who follow the last, and, in my Opinion, the best Method, apply such a Ligature the second or third Day, for fear any Gravel, or small Stone, should be prevented from being discharged, which might lay a Foundation for the Generation of another Stone, if retained in the Bladder.

After Dressing, the Patient should be supplied with Plenty of Putan, Barley-water, or a strengthening and gently composing Emulsion, not only to compose him to Sleep, and recover his Strength, but to cleanse the Bladder of all the Relicks. His Diet should be the same as for People in Fevers, or after great Wounds, as of Putan, or Barley-water, made pleasant with some cooling Syrup, for his ordinary Drink; afterwards, if there is no Fever, or the Fever is abated, he may be allowed small Beer, or Wine and Water, forbearing every thing sharp, or salt, spicy, or too heating. The Air of his Chamber should be very temperate. If he complains of an unusual Heat, or a Fever, he should be bled, a Clyster should be administered, and cooling Medicines taken inwardly. These Difficulties being surmounted, the Patient is judged in a fair Way. On the contrary, if a cold Chillness and Horror seize him on the third, fourth, or fifth Day, followed by an intense Fever, Hiccoughs, Nausea, Vomiting, and convulsive Motions, or the Wound does not suppurate, but becomes dry, Death generally ensues. At first, the Wound may be dressed once or twice in a Day with Lint, and a digestive Ointment, over which should be apply'd a Compress dipt in warm Spirit of Wine, Oxycrate, or some other Fomentation, to prevent an Inflamma-

tion; these are to be secured with a Bandage. After the third or fourth Day, the Bandage, in my Opinion, may be tighten'd; and this may be continued every subsequent Dressing. When there is a proper Suppuration, and Union of the Parts, instead of the digestive Ointment, the Wound may be dressed with a vulnerary Balsam, as Balsam of *Capivi*, or *Linimentum Arcei*; and the Whole secur'd by a sticking Plaster, and Compresses on each Side. This must be repeated twice daily, till the Wound unites; then dry Lint with a Plaster will form a strong Cicatrix. The Agglutination will be promoted, likewise, by the Patient's lying on his Right Side, and keeping his Thighs close, tho' he may, in some time, change his Posture, but not open his Legs: It is therefore proper to tie them together, especially if he is a Child, and order him to keep still in his Bed; nor should he be permitted to rise and walk, till the Urine discharges itself thro' the natural Passage, and the greatest Part of the Wound is healed. This is sometimes performed within eight Days in Children, and where the Stone was small and smooth. Afterwards, Walking will promote the Discharge of the Urine by the common Passage, and the Union of the Wound; nor will it be improper for the Surgeon, about the sixth or seventh Day, to compress the Wound with his Hand, to see if the Urine will flow by the proper Passage, if it does not take that Course spontaneously. When the Linen is foul, it must be changed, to prevent an Ulceration.

If the Stone cannot be found after a long Search, or, when found, cannot be extracted, and the Patient is weak, the Operator must desist, till he has recovered his Strength, and give him corroborating Medicines. But when he is very weak, and a Delirium, or Convulsions, come upon him, he must be put to Bed for a Day or two, or longer, till the Wound suppurates; nor should the Surgeon proceed, till he recovers his Strength, and the Stone may be felt by the Probe, according to the Advice of *Albucasis, Francus, Hildanus, Colot, Savonar, and others*; for, if he is continued too long on the Table, he may perish under the Operation. Sometimes a corrupt, spongy Substance is extracted with the Stone, which is a Sign, that some Abscess, Caruncle, or fleshy Excrescence, is formed in the Bladder, which is attended with Danger, or at least a Fistula in the Perineum is likely to ensue. If the Catheter cannot be passed into the Bladder of an Adult, either from an Inflammation, or Stone in its Neck, a Caruncle, or violent Phymosis, an Incision must be made by the Apparatus minor; or, according to *Franco*, above the *Ossa Pubis*, as we shall direct hereafter more at large. If Straining, from the violent Pain, causes an inconsiderable Descent of the Anus, or Rectum, at the Beginning, it may be restored by the Finger, after the Operation; but if it is great, the Intestine must be immediately restored, and sustained by an Assistant; when it happens in the Middle, or towards the End, it may be deferred till the Operation is finished; for, upon the Cessation of Pain, it generally recovers itself, or may be assisted with the Fingers. If the Incision is to be made on one who has been cut before, it must be made in the Cicatrix. Nor should the external Wound ever be too small, since a large one heals as soon as a smaller; but, if the Stone is impeded by the Smallness, the Wound must be enlarged in the most convenient Part, by the Knife, or Scissors; and, if the Stone proves still too large, it is better to desist than kill the Patient. When the crooked Forceps are necessary, they should be introduced with the End pointing upwards, and the Handle given to an Assistant, though the strait are generally sufficient. Instead of the common Knife, (*Tab. XLVIII.*) those may be used represented at *Tab. LII. Fig. 8. 18.* The Time of the Wound's healing varies according to the Patient's Habit, and for other Reasons; being sometimes fifteen or twenty Days, sometimes four or five Weeks, or longer. When the Forceps is introduced, it should be guided by the Finger, the Director, or the Handle of the Scoop, that it may not miss the Way, and wound the adjacent Parts. If the Stone is flat or broad, it should be laid hold of, not laterally, but on its upper and lower Part. Lastly, if the Patient, after the Operation, is afflicted with violent Pains in his Bladder, it will be proper to inject some warm Milk, or other Decoction, by a Syringe; but if the Stone, from its Roughness or Largeness, has injured the Bladder, it may be filled with Barley-water, or a Decoction of vulnerary Herbs, warm, and mixed with Honey of Roses, or *French Wine*, with Myrrh boiled in it, and an Addition of Honey of Roses. For the rest consult *Tales, Greenfield, and Alghisi*. For the Convenience of this Method, above any other, see *Le Dran's Parallele des Methodes*. On the contrary *Garengot, Dionis, Douglas, Cheselden, and Merand*, have rejected it.

Mr. *Sharp* gives the following short Account of the Method of performing this Operation in our Hospitals.

Introduce the Staff, having first dipt it in Oil, which must be held by your Assistant, a little leaning on the Left Side of the Seam in Perineo; and, beginning the external Wound just below the Scrotum, (which must be held out of the way) you continue it downwards, to within two Fingers-breadth of the

* *Colot* stopt an obstinate Hemorrhage of this Kind by Phlebotomy, three or four times repeated in twenty-four Hours. He advises the Continuance of it *ad Deliquium Animi*.

Anus; then, leaving that Direction, you slip the Knife forwards in the Groove, pretty far into the bulbous Part of the Urethra; or, as there is some Danger of wounding the Rectum, in the Continuation of the Incision, you may turn the Knife, with the Back towards it, and make this Part of the Incision from within, outwards. Should a very large Vessel be cut, it will be advisable to tie it, before you proceed any farther in the Operation. When the Wound is made, slide the Gorget along the Groove of the Staff, into the Bladder; and, to do it with more Safety, when the Beak of it is received in the Groove, it will be proper to take the Staff yourself, in your Left Hand; for if the Assistant should unwarily either incline the Handle of it too much towards you, or not resist enough to the Force of the Gorget, it is very ready to slip out of the Groove between the Rectum and the Bladder, which Accident is not only inconvenient to the Operator for the present, but is attended, for the most part, with very bad Consequences. The Gorget being passed, dilate the Urethra and Neck of the Bladder with your fore Finger, and introduce the Forceps into the Bladder, keeping them shut till you touch the Stone, when you must grasp it with a moderate Force, and extract it by pulling downwards towards the Rectum.

THE HIGH OPERATION.

Besides the two preceding Methods of Lithotomy, there is a third, ascribed to *Pierre Franco*, a French Surgeon, as its first Inventor, and after him called *Methodus Franconica*; and from the Place of the Incision, which is the Middle of the Hypogastrium, it is likewise termed the Hypogastric Section, and commonly the *Apparatus altus*, because the Operation is performed above the *Ossa Pubis*, in the superior and anterior Part of the Bladder; whereas in the *Apparatus major, minor*, and the lateral Operation, the Incision is made below the Scrotum in the Perinæum. However, this new Method was scarce ever once performed by its Author, soon rejected by the Surgeons, and never mentioned but with a Design to explode it. For though *Franco* met with Success upon a Child of two Years old, at *Lausanne*, in the Year 1560. he only undertook it, because the Stone, being as big as an Hen's Egg, was too large to be extracted at the Perinæum, and the Parents insisted upon it; and he is so far from recommending it, that he attributes his Success to Accident, rather than Art, and pronounces it dangerous to the Patient, and rash in the Surgeon. This was insisted upon the more, because a Wound in the upper or membranous Part of the Bladder was always judged by the Antients, after *Hippocrates*, to be mortal. But since that time several Physicians and Surgeons have thought, from the anatomical Structure of the Parts, and Experience, that an Incision above the *Ossa Pubis* might be expeditious, easy, and safe, to one acquainted with the true Situation of the Bladder, withoutside of the Peritoneum, and its Conformation and Connection with the adjacent Parts, and the Method of cutting into it, without injuring its Fundus. The Possibility of this appeared, because its accidental Inventor actually performed it. *Tolet*, also, tells us, that *Bonet*, a Surgeon, at *Paris*, performed it successfully. He describes it almost in the same manner, as *Franco* proposed it, which is this: An Assistant should introduce his two fore Fingers into the Anus, to protrude the Stone forward towards the upper Part of the Bladder, and retain it there; then the Operator makes an Incision into the Skin, Fat, Muscles, and Bladder itself, near the Bottom of the Linea Alba, above the Junction of the *Ossa Pubis*; and afterwards, dilating the Aperture with a proper Instrument, he extracts the Stone with the Forceps, healing the Wound with a vulnerary Balm, as in other Wounds of the Abdomen. *Tolet* makes no mention of filling the Bladder with Water, or some other Liquor, though *Rosset* proposed it long before. To *Franco* and *Bonet* we must add *Greenfield* as a Performer of the High Operation; for, he says, he was obliged to extract a Stone, by making an Incision above the *Ossa Pubis*, which succeeded; but we are left in the Dark for the Reason of this Necessity, though probably it was the Largeness of the Stone. And *Hildanus*, who, at first, dissuades from this Operation, afterwards declares, if the Stone should be of an exceeding great Size, that he prefers the Method of *Franco* before the *Apparatus major*; for if, by its Largeness, it be pressed towards the Inguen, (he would, or ought to have said, the Pubes) I am convinced, says he, it may be extracted with less Pain and Danger at the Pubes, than by forcing it through the Neck of the Bladder: If this holds true of a large Stone, certainly a small one may be extracted with more Ease, less Pain and Danger. It is, also, much recommended by *Petræus*; and *Riolanus* evidently proves it practicable from the Situation and Structure of the Bladder, and says, it was performed within his Knowledge.

Dionis, an eminent French Surgeon, is of the same Opinion; and says, that if the Bladder is filled with warm Liquor, he should prefer it to the *Apparatus major* and minor, provided it would answer upon Experience: He asserts, too, that *Fagon*, then first Physician to the King of France, had the same Sentiments. Hence it is plain, that many of the French wrote and contended for it. There is, likewise, a remarkable Instance in

the *Philosophical Transactions* for the Year 1700. where a Surgeon, whose Name was *Proby*, extracted a Stone from a Maid, by the High Operation. But of this more particularly, when I treat of the Methods for extracting the Stone from Women. I am surpris'd, that none of the English should mention this in their Writings, and am therefore inclin'd to think it was unknown to them, tho' published in the *Transactions*, and the second German Edition of my (*Heister's*) *Surgery*, Ann. 1724. and *Falconet* is the only French Author, who has taken any Notice of it. It is very extraordinary, that so many French Surgeons should reject this Operation, since it has been several times performed with Success, and appears, on many Accounts, more easy, simple, and liable to fewer Inconveniences, than the others, as there is no Danger of wounding the Parts of Generation, the Sphincter of the Bladder, the Ureter, Urethra, Rectum, or any of the larger Blood-vessels, or of a Fistula in the Perinæum, or Incontinence of Urine, or Impotence, or an Hemorrhage. Which Advantages, and many more, are proved by *Rosset*, in his *Treatise de partu Cesareo*, where he recommends the High Operation, and demonstrates, that if the Incision does not communicate with the Cavity of the Abdomen, so as to transmit the Urine thither, it is not mortal.

Dr. *James Douglas* revived this Method, after it had been long buried in Oblivion; for he, partly by reasoning on the Situation, Structure, and Connection of the Bladder, and partly from the Authorities of others, in a Meeting of the Royal Society, Anno 1718. demonstrated, that the Stone may be safely extracted by cutting into the superior and anterior Part of the Body of the Bladder, when the Incision is skilfully performed; and accordingly his Brother, *John Douglas*, in the Year 1719. performed this Operation on a Man troubled with the Stone; and, in the Year following, published a Treatise, intitled *Lithotomia Douglasiana*, wherein he confirms the Reasonableness of this Practice from Anatomy, relates the superior Advantages of it, and corroborates the Whole by an Instance of his own Success upon a Lad of sixteen Years of Age, which was done at the very time he first publicly proposed this Method. Soon after this *Chefelden*, *Douglas*, and several English Surgeons, frequently practis'd it with Success.

Mr. *Chefelden* says, that soon after Mr. *Douglas* had perform'd this Operation, a Surgeon of *St. Thomas's* Hospital cut two, who both recovered; but the same Gentleman afterwards cutting two more, who miscarried by the cutting or bursting the Peritoneum, so that the Guts appear'd, this Way immediately became as much decried, as it was before commended; upon which the Surgeons of *St. Bartholomew's* Hospital, who had prepared to perform this Operation, altered their Resolution, and went on the old Way. The next Season, says he, it was my turn in *St. Thomas's* Hospital, I resumed the High Way; and, cutting nine with Success, it came again in Vogue; after that, every Lithotomist, of both Hospitals, practis'd it; but the Peritoneum was often cut or burst, twice in my Practice, though some of these recovered, and sometimes the Bladder itself was burst, from injecting too much Water, which generally proved fatal in a Day or two. Another Inconvenience attended every Operation of this Kind, which was, that the Urine's lying continually in the Wound, retarded the Cure; but then it was never followed with an Incontinence of Urine. What the Success of the several Operators was, I will not take the Liberty to publish; but, for my own, exclusive of the two before-mentioned, I lost no more than one in seven, which is more than any one else that I know of could say; whereas in the old Way, even at *Paris*, from a fair Calculation of above 800 Patients, it appears that near two in five died. And, though this Operation came into universal Discredit, I must declare it my Opinion, that it is much better than the old Way, to which they all returned, says *Chefelden*, except myself, who would not have left the High Operation, but for the Hopes I had of a better, being well assured, that it might hereafter be practis'd with greater Success; these fatal Accidents having pretty well shewn how much Water might be injected, and how large the Wound might safely be made.

For my own Part, says *Heister*, as I thought this new Method supported both by anatomical Reasons, and Experience, I performed the High Operation without any Fear, April 17. Ann. 1723. upon a Man above thirty Years of Age, when I could not extract a large Piece of the Stone by the Wound in the Perinæum, according to the Method of *Rau*; for it could not be lodg'd out, and consequently not extracted, by the Forceps, because, perhaps, it was conceal'd in some Cavity of the Bladder, such as Lithotomists have sometimes observ'd. This I did in the Presence of many Surgeons and Students in Physic, the Day after I had performed the other Operation without Success; nor did I inject any Liquor into the Bladder, for the Wound in the Perinæum prevented that; but making an Incision into the Body of the Bladder, pursuant to the Directions of *Rosset* and *Douglas*, above the *Ossa Pubis*, I enlarged it upward and downward by the crooked Knife, armed with a Button at the Point (see Tab. XXVI. Fig. 5.), and, introducing my Fingers, extracted the Stone with great Ease and Expedition. For the Pa-

tient preferred the Hazard attending this, to the intense Pains he suffered. He continued, during the first Days, very well; but, about the fifth or sixth Day, he was seized with a Shivering, followed by a feverish Heat: These I mitigated; but he was still afflicted with Pains in his Back and Loins, attended with a Nausea and Faintness, as before the Operation. The Wounds were free from Pain, but the superior, in particular, could not be brought to suppurate and unite, though I applied sticking Plaisters, and the broad uniting Bandage, (*Tab. XXVI. Fig. 8.*) as in other Wound, of the Abdomen, a good vulnerary Balsam, and long thick Compresses on each Side, which did not prevent the Urine from escaping thereby, though very little passed through the Wound in the Perinæum, and none through the Urethra. In about a Month, being exhausted by Weakness and Reachings, he died. Upon opening him, the inferior Wound was found partly in the Neck, and partly in the Body of the Bladder; but the superior was right in all respects; for there was no Division of the Abdomen or Peritonæum, nor any Injury of the Intestines; nor was any Blood or Urine found in the Cavity of the Abdomen, but the Kidneys were greatly distended with Ulcers, and a purulent Matter, which was the true Cause of the Pains in his Back and Loins, with the other Symptoms, and indeed of his Death.

But this Method seems to me attended with more Difficulties, than one would imagine from *Rosset* and *Douglas*, particularly with regard to healing the Wound, which, for many good Reasons, can never prove a very easy Task: For, as Anatomy demonstrates, that the inferior Part, or Neck of the Bladder, is armed with a strong Sphincter, and as the Urine does not spontaneously flow out, but is expressed by the contractile Force of the muscular Coat, it is no Wonder that the Bladder, irritated by the collected Urine, should contract itself, and expel that Excrement with more Ease through the divided contracted Part above, than the natural narrow Passage, which is always contracted by a Sphincter; and this must hinder the Agglutination. To this we may add, that the external Wound of the Abdomen is no less difficult to heal and unite, because the Lips are constantly drawn from each other, by the oblique and transverse abdominal Muscles, so that they perpetually recede from the *Linea alba*, towards the *Vertebrae* and *Ossa Ilei*.

Besides the Difficulty arising from the continual Distraction of the Lips, the Dressings, also, are immediately spoiled, and rendered ineffectual, by the constant Efflux of the Urine: For though I took all possible Care to renew them, and brought the Lips of the Wound, two or three times in a Day, very close to each other, treating it with a good vulnerary Balsam, and long sticking Plaisters, almost sufficient to cover the whole Abdomen, and then applied long, thick Compresses on each Side of the Wound, securing the Whole by a very long and strong uniting Bandage, yet it proved insufficient; for the Plaisters, Compresses, and Bandage, were soon wetted and loosened by the Urine, so that I was obliged to repeat the Dressings many times in a Day, and nevertheless the Union of the Wound was not in the least forwarded. But, to prevent the Imputation of Neglect, I must observe, there is no better Course proposed than what I followed; for *Douglas* and *Greenfield* do not mention a Word about the means of healing the Wound, but only, in general, tell us, that they cured their Patients in four Weeks.

From what has been said, it is manifest, how much they are mistaken who prefer this Method, because, as they say, the Wound is more easily and expeditiously healed: For, as to what they assert, that, by the Laws of Fluids, the Urine will pass much more easily through the Aperture in the lower Part of the Bladder, than that above, and, consequently, the Fistula in the *Perinæum*, so frequently caused by a constant Flux of Urine thro' the Wound, will not be so likely to happen, this cannot influence Men of Judgment: For, as the Urine is expelled out of the Bladder, not by its own Weight, but by a proper Contraction of that Receptacle, assisted by the Diaphragm, it must necessarily follow, that it will more easily discharge itself through a Wound in the upper Part, than through the Neck, which is contracted by a strong Sphincter. And this seems to me the Reason why so many neglected it, though it had met with some Success; and the ancient Writers upon this Subject might designedly omit the Mention of Difficulties attending the Agglutination of the Wound, lest the World should attribute their want of Success to their want of Skill. For very few, like *Hippocrates*, publish their good and bad Success indifferently, though it may be of Service to Posterity; but fear, with some Reason, that the Patient's Death may be imputed to their Ignorance, though the Disorder was absolutely incurable. *Tolet* tells us, but it is from the Relation of others only, that *Bonnet* performed the High Operation on several, though neither he, nor *Bonnet*, say one Word of the Method of healing the Wound. And, as we are assured from Experience and History, that *Bonnet*, and the greater Part of the *French* Surgeons, still continue the Apparatus major, we may reasonably suppose he never performed the other, but, when the Stone could not be extracted by that; and it might, perhaps, seem a Reflection on his Character, that he could not,

without Difficulty, if at all, cure a Wound, which seemed slight to others. Now what could induce these great Men to reject the High Operation, but the Difficulty that occurred in healing the Wound? especially when they allowed it many Advantages over the other Methods. Because *Douglas* succeeded on a stout young Subject, must we, therefore, conclude, that there is a Necessity for performing this Operation on Patients advanced in Years, and of a bad Habit? I must then declare this not to be the best Method, till more speedy and effectual Means are discovered for uniting the Wound, and till such Methods are confirmed by repeated Instances of Success. As for *Tolet's* Opinion, that it may be cured as easily as other Wounds of the Abdomen; this seems founded only on Conjecture. Nor am I convinced, that Gastroraphy, recommended by *Rosset* and *Solin-gen*, may be successfully practised, since the Puncturation of the Bladder induces bad Symptoms, and several expert Surgeons have tried it without any Advantage.

Thus I judged in the Year 1724. and will now declare my present Opinion: After having considered the Nature and Performance of the Operation, with the Instances of Success from *Douglas*, *Chefelden*, *Thornhill*, *Smith*, *Pye*, *Macgil*, *Morand*, myself, and others, I rather ascribed the Difficulty of healing the Wound to an ill Habit, since it is not so in young Subjects, especially Children, when a proper Bandage is used with a digestive Ointment, and vulnerary Balsam, as Balsam of *Capivi*, or *Linimentum Arcei*, and a regular Diet is observed. And I am the more confirmed in this Opinion, by many living Instances, who have been cured by *Douglas*, *Chefelden*, myself, and others. Upon the Whole, therefore, I must recommend the High Operation, in Boys and young Men, who are otherwise of a good Habit of Body, as none of these have died under it, and especially when the Stone is lodged so high in the Bladder, or is so rough and sharp-pointed, that it cannot be extracted by the Apparatus minor, though I prefer the latter, as more certain and safe, in Infants who are subject to cry violently, so that their Bladder cannot be filled with Liquor, if the Stone is not rough, and can be forced to the Perinæum.

I am sensible many have died under this Operation, (nor have all escaped under the other Methods) but that was rather owing to a bad Habit or Weakness; for several, upon opening them after Death, have been found to have Ulcers in their Bladder and Kidneys; and, therefore, I do not recommend this for Persons upwards of Thirty, as they, for the generality, have been long afflicted with the Stone; for in such I seldom met with Success, nor do *Douglas* and *Morand* encourage it; for they observe, that some have perished from the preceding Disorders; others from an Abscess in the cellular Membrane covering the Bladder; and others from a Cancer in the Bladder; consequently the High Operation should not be performed upon Persons advanced in Years, unless there is some urgent Necessity, as, particularly, when the Stone cannot be extracted through the Perinæum. Care should be therefore taken, not unjustly to attribute the Patient's Death to this Operation; though, to vindicate this innocent Method from such false Aspersions, the Surgeon should never perform it but on Boys, and young Men, amongst whom I have never met with one Miscarriage, and very few have been lost under the Hands of others, but such as were above Thirty, and reduced by other Diseases. Lastly, as *Douglas* observes, it is a bad Presage, and an infallible Forerunner of Death, when the Wound can neither be suppurated nor cleansed, whereas the contrary leaves no Room to doubt of a certain Cure.

Thus much for the Operation itself: We shall now proceed to the Method of performing it, especially my own Practice; but it will be necessary, for the sake of young Beginners, to describe the Disposition, Situation, Connection, and Structure of the Bladder, as an accurate Knowledge hereof is highly necessary. Upon opening the dead Body of a Male Subject, the Bladder, being empty, and collapsed, lies concealed under the *Ossa Pubis* and Intestines, so that scarce any Part of it can be seen; but if it is inflated, or Water injected into it, by a gradual Extension it expands itself considerably above the *Ossa Pubis*, towards the Navel, so that the large and superior Part, call'd the Body and Fundus, may be plainly viewed. To make this more intelligible, I have (in *Tab. LI*) exhibited several Figures from *Chefelden*. *Fig. 1.* represents a dead Subject in an oblique Posture, a little inclined to the Right, principally to shew the Abdomen, in which the common Integuments, and abdominal Muscles, being laid aside, we have a View of the Peritonæum, including the Intestines, and of a large Part of the Bladder A, which shews its Body and Fundus filled with ten Ounces of Water; B the Urachus, which connects the Bladder to the Navel; C C the umbilical Arteries, D D the *Ossa Pubis* cover'd with the Integuments turned down to shew that Part of the distended Bladder, which rises up into the Abdomen, above the *Ossa Pubis*.

Fig. 2. is the Abdomen entirely open, the Peritonæum being removed, or cut off, which shews the Bladder filled with twenty Ounces of Water; but here the internal Lamina of the Peritonæum A A A A is left adhering to the Bladder, while the exterior,

terior, near the abdominal Muscles, is removed. BB shew the Part of the Bladder next the Musculi pyramidales and Recti of the Abdomen, the exterior Lamina being removed, so that the muscular Fibres may be seen. CCCCC represent the Margin of the internal Lamina of the Peritonæum, which covers principally the Fundus of the Bladder, where the Intestines touch it, and where it is excluded from the Cavity of the Abdomen*: DD the Ossa Pubis, EE the Intestines, BB the Middle of the Body of the Bladder, which is divided in the High Operation. Fig. 3. represents the Right Half of the Abdomen, opened in an erect Situation, the Intestines and Integuments being removed: AA the upper Part of the Bladder, properly termed the *Fundus*, invested with the Peritonæum, which lies next the Abdomen, and which touches the Intestines, whose Limits in the distended Bladder are *aaaa*. BBB the Body of the Bladder on the Right Side, greatly distended, joined to the abdominal Muscles, which does not communicate with the Cavity of the Abdomen, but is separated from it by the Limits of the Peritonæum *aaaa*; so that, if the Bladder is divided within the Bounds *aaaa*, the Urine cannot enter into the Cavity of the Abdomen, but runs without the Body, and over the Ossa Pubis, in the High Operation, where *bb* denote the Part of the Bladder divided, in which Part Wounds are not mortal. CCC the Right umbilical Artery; DD the Urachus; E the Os Pubis, covered with Part of the Integuments; F the broad Ligament of the Liver; G Part of the Liver; H Part of the Right Kidney; I Part of the Right Ureter; K the Membrana adiposa; L the Left pyramidal Muscle; MM the Left Rectus Muscle. Fig. 4. represents the Abdomen opened, and the Bladder but moderately distended. AAAAA the Body of the Bladder, invested with the Peritonæum, the wounding of which is fatal; BBB the Part of the Bladder without the Peritonæum, the Bounds of which, being terminated by the Line CCC, and the Ossa Pubis DD, take in but a small Compas; which shews how cautiously the Lithotomist should proceed in the High Operation, when the Bladder is but little distended, and that he should make the Incision with a small narrow Knife. For if the Bladder is wounded in the upper Part, which is covered with the Peritonæum, so that the Urine may pass into the Cavity of the Abdomen, as at AAA, Fig. 2, 3, and 4. the Wound is incurable. The Bladder, therefore, should be only separated, where it is uncovered with the Peritonæum BBB. EE the Intestines.

Having premised this, we shall proceed to describe the Operation itself: The Patient, being duly prepared, is to be laid on a Table, or Bed, in such a Posture, that his Buttocks may be somewhat higher than his Head; his Hands, Arms, Legs, Breast, and Head, must be secured by strong Assistants, not using Ligatures, on account of the Terror they strike into some Men; for this Reason the Bed is often preferred to the Table. A Pillow should be placed under his Head, that his Back may be a little bended, and the abdominal Muscles in some measure relaxed. Then an hollow Silver Catheter, with a flexible Leathern Tube at one End, (see Tab. LI. Fig. 5. AA, DDD) is to be gradually and slowly introduced into the Bladder. Instead of which Tube, according to *Douglas*, the Wind-pipe of an *Indian* Cock may be used; or, according to *Chefelden*, the Ureter of an Ox. To this the Tube C must be fastened, and afterwards fitted with a large Syringe; by which means so much warm Water, Barley-water, or Milk, must be injected into the Bladder, as the Patient can bear without Pain or Uneasiness, or rather till the Bladder is full, and sufficiently distended†. When this is done, the Catheter is extracted from the Bladder, and the Penis, with the Urethra, held tight by an Assistant, or depressed to the Peritonæum, or tied with a broad Tape. Then, standing on the Right Side of the Patient, I order a prudent Assistant to introduce his two fore Fingers into the Anus, to elevate the Stone and Bladder: In the mean time I make an Incision with the small Knife, (see Tab. XXXIII. Fig. 14.) or one like it, wrapped in a Piece of Linen, first through the Skin and Fat, and then, by degrees, through the abdominal Muscles, in a right Line, immediately above the Ossa Pubis, or near the Bottom of the Linea alba, or in the Linea alba itself‡ (see Tab. LI. Fig. 3. *bb*, or Fig. 4. B, C). The external Wound should be three Fingers-breadth long in Children, and four in Adults. Then, introducing the Fingers of either Hand into the Wound, particularly the Left Index, I feel

for the Liquor which distends the Bladder above the Margin of the Ossa Pubis, at their Junction; which is not easily to be discovered, when the Bladder is not much distended, either by reason of Convulsions of the wounded Parts, the unusual Hardness of the Bladder, or some other Cause. I then make an Incision with the same, or an hooked sharp Knife, into the Bladder immediately above the Junction of the Ossa Pubis; or else, as I once practised successfully, make an Aperture in that Part, with the Trocar, without the Cannula (Tab. XLV. Fig. 2.). But where the Bladder is but moderately distended, this should be done with Caution, for fear of wounding the Fundus; and, therefore, I introduce my Left Index into the Perforation, and gently separate the Peritonæum from the Ossa Pubis, on which it lies, to avoid injuring either that, or the Fundus. I then pass a small Knife, or the Trocar, obliquely behind the Ossa Pubis, into the Body of the Bladder (but not the Fundus) towards its Neck, so as to make a small Wound with the Point only. After this, Part of the injected Liquor, or the Urine contained in the Bladder, immediately flows through the Wound. Through this Aperture I pass a crooked or strait Knife, armed with a Button at its Point (see Tab. XXVI. Fig. 3, 4, 5.); and, elevating the Button towards the Fundus, I enlarge the Wound upwards, for the Breadth of one or two Fingers, according to the Size of the Patient: By this the Peritonæum, and Fundus of the Bladder, can scarcely be injured, and only the Body of it, (see Tab. LI. Fig. 2. BB) about the Middle, and near its Neck, is opened; but the Peritonæum AAA, Fig. 2, 3, 4. remains entire. Some condemn this Method, which I took from *Rosset* and *Douglas*; and direct the Incision to be made from the upper Part of the Bladder, a little below the Urachus, and to be continued to the Os Pubis, at one Section. They say, that the greatest Danger of the Operation consists in this Incision, which I readily grant. But since we are generally uncertain how far the Bladder is distended, and what Part under the Urachus they would have divided, I must give the Preference to the Method here proposed, especially when the Incision is prudently made, with a blunt-pointed Knife, which some of them reject. By this means, even where the Bladder had little or no Distention, I never wounded the Peritonæum, whereas they, by their Incision downwards, generally do, though the Bladder is properly distended; and thus the Patient dies. This Method succeeds with or without a Distention, but there is only practicable with a very great one; and, therefore, as we are informed by *Winflow* and *Morand*, mine was preferred by *Thibaut*. When I have perforated the Bladder enough to admit my Finger by the Side of the Knife, I introduce my Left Index, and, bending it in the Form of an Hook towards its Fundus, gently draw the upper Part of the Bladder towards the Navel, and then enlarge the Wound downwards, by directing the Instrument towards the Ossa Pubis, and Neck of the Bladder; this makes the Aperture sufficiently large. Immediately after, I introduce the fore Finger of my other Hand into the Bladder, and examine the Size and Situation of the Stone, and whether a larger Wound is requisite: If the last is required, leaving my Finger in the Bladder, I elevate and enlarge the Wound, either upward, or downward, or both, till I think it sufficient for the Extraction of the Stone, without injuring its Fundus, which may be securely performed with the obtuse-pointed Knife. But, if the Incision is large enough, I lay aside the Instrument, and desire the Assistant, whose fore Fingers are in the Patient's Anus, to press the Stone forwards, as much as possible, during which time I endeavour to extract it with my Fingers, when it is small: If they are insufficient, I introduce the Hooks, (Tab. XLVIII. Fig. 10.) or the Forceps, as I judge proper. To some Patients, who dreaded the Introduction of the Catheter, and the Injection, I prescribed large Quantities of Tea, keeping a Stricture upon the Urethra, by the Instrument (Tab. XLVII. Fig. 9.), that the Bladder might be somewhat distended; and thus have I made a proper Incision, and extracted the Stone, though some deny it to be possible||. When I could not extract the Stone through the Peritonæum, which has happened twice to me, and when the inferior Wound prevented a Distention of the Bladder, either by Injection, or retaining the Urine, (which occurred to *Greenfield*, and, perhaps, *Franco*) having carefully divided the Skin and Fat from the Musculi recti of the Abdomen, I introduce my Left Index between the Os Pu-

* *Garengeot* says, the Bladder is without the Abdomen; which, in my Opinion, is a Mistake. The Bladder, indeed, when collapsed, is without the Peritonæum, but not without the Abdomen; because it is situated in the Pelvis, which is the lower Cavity of the Abdomen, formed by the Ossa Innominata and Sacrum, which, by general Consent is allowed to be Part of the Abdomen; and, therefore, any Part situated in the Pelvis, is situated in the Abdomen.

† Some Surgeons, and particularly *Garengeot*, assert, that the Bladder should be distended, till there is a visible Tumor above the Ossa Pubis. This may be right in dead Subjects; but I have found, by Experience upon the Living, it can scarcely be perceived by reason of Spasms and Pains. And *Chefelden* gives an Instance, where the Bladder was burst, by injecting too much Water. The Distention of the Bladder, by blowing in Wind with a Pair of Bellows, as *Sollingen* advises, is rejected by *Rosset*, as useless and pernicious.

‡ Some Surgeons, particularly *Garengeot*, say, it is dangerous to make an Incision in the Linea alba; and, therefore, to be avoided. But my own Experience, with the Testimony of many others, convinces me, that the Incision will heal in this Part as well as the muscular. *Winflow* pronounces it an useless and vain Caution.

|| *Rosset* proposed filling the Bladder, particularly by drinking Spaw-water, or some other Diuretic, but I know none, either among the English or French, who have followed his Advice. But, that it will succeed, appears, not only from my own Practice, but from *Prostbych*, who cured a Lad of twelve Years old by this Method; though he wounded the Peritonæum to such a degree, that the Intestines fell down. But *Winflow* advises the Patient to retain his Urine, after plentifully drinking for several Days before the Operation, and by that means to cause a gradual Extension of the Bladder.

bis and Membrane of the Peritonæum (see *Tab. LI. Fig. 4. BB*; and *Bedlow's Tab. XLI.*) and thrust it gently back from the *Ossa Pubis*, that I may first make a small Incision, and then a larger, into the Body of the Bladder, and extract the Stone, without wounding its Fundus, or the Peritonæum. The performing the High Operation, without distending the Bladder, is taken notice of by no one, that I know of; though it may be useful, and even necessary in some Cases. Repletion of the Bladder, therefore, is not always requisite; yet it must be owned, that without it more Caution and Diligence is required.

Some say that the Fundus of the Bladder is to be divided in this Operation, and the Stone extracted that way, among whom is *Garengeot*; but this must proceed from an imperfect Knowledge of the Parts; nor does he in his *Splanchnologia*, when he treats of the Bladder, say one Word of its Parts, and the Manner of dividing it, tho' it is of the last Importance to Beginners, in every Operation where that is concerned, and particularly in the several Methods of Lithotomy. Others improperly divide the Bladder into two Parts only, its Neck and Fundus; and these, in describing the hypogastric Section, tell us it is to be separated in its Fundus; whereas a Wound in that Part is fatal, because the Urine then flows into the Cavity of the Abdomen, there putrefies, and destroys the Patient. The Bladder, therefore, should be divided into its Neck, Body, and Fundus, considering it as a Pitcher, (for to this *Riolanus*, and others, have justly compared it) in which there is the Neck, the Body, and the Bottom; but it would be absurd to call the Body of the Pitcher, which follows the Neck, the Bottom of it, since by that Name we understand the lowest Part, opposite to its Neck: In the same manner, we may reason on the Bladder, though it represents a Pitcher inverted, (see *Tab. L. Fig. 8.* or *Tab. LIII. Fig. 1, 2.*). A A, therefore, (in *Tab. L. Fig. 8.*) denote the Neck of the Bladder; B B the Body, or Bladder itself; C the Fundus, though that Part, when we stand erect, is uppermost; D D the Prostate Gland; E E part of the seminal Vessels in a Boy. But, if we consider the Bladder out of the Body, that Part where the Butcher inflates it is the Neck; that opposed to it, the Fundus; and the intermediate Part, the Bladder itself; which, as *Rosset* observes, is to be cut, and not the Fundus. As, in the High Operation, the Bladder is divided in the middle and lower Part of its anterior Surface, (see *Tab. L. Fig. 8. BB*; and *Tab. LI. Fig. 2. BB*) so, in the *Celsian* and Lateral Operation, is it divided in the lateral lower Part, which some not improperly call the Basis (see *Tab. L. Fig. 1.*): But in no Method is the Fundus separated: For, as this would open a Passage for the Urine into the Abdomen, the Wound must prove incurable. We must not, therefore, pay any Regard to those who espouse this Method, tho' they falsely ascribe their Opinion to *Rosset*. It is surprising, since *Rosset* has distinguished so accurately between the Parts of the Bladder, that the modern *French* Surgeons should rashly declare, as a Matter of no Consequence, that the Fundus may be divided: On the contrary, most of the *English*, with *Rosset*, and myself, advise the Incision to be made in the Body, as appears from *Middleton*, when he says, "It the Incision in the Body of the Bladder is sufficiently large," &c.

When the Stone is extracted, according to the Directions given above, the Operator introduces his Fingers into the Bladder, to search if any thing remains which ought to be extracted; which may be done better this way than any other. If nothing is left, the Wound being covered with a Linen Cloth, or a Compress, the Patient is put to Bed, and some dry Linen Cloths laid on that Cloth, for Lint might slip into the Bladder; the Whole is then secured with a Compress, and a large folded Napkin brought round the Abdomen, as in other Wounds of that Part. Some few Hours after, the Wound should be dressed with Lint spread with digestive Ointment, over which should be laid a Plaster, and thick Compress, moisten'd with warm Lime-water; to which add Spirits of Wine and Camphire, with a little of the medicinal Stone, or Sal Armoniac, or Oxyerate, or a Decoction of some of the vulnerary Herbs in Red-wine, which should be often applied round the greater Part of the Abdomen, and secured by a Napkin fasten'd tight about the Body. A Continuation of this for four or five Days will prevent an Inflammation; and it may be sometimes laid on the Abdomen, whilst the Wound is uncover'd, that any noxious Contents may discharge themselves. By this means, in young Men and Boys, and sometimes in old Men of a good Habit, the Wound will suppurate, and be perfectly cleansed, in seven, nine, ten, or twelve Days: Then it should be dressed once or twice every Day with Balsam of Capivi, or, what is better, Lini-mentum Arcei; and the Lips must be approximated, and held together by a narrow sticking Plaster, as in the dry Suture; for a more early Use of these Plaisters is even pernicious, as they impede the Cleansing of the Wound, and Bladder. Over the Plaster it will be proper to apply an uniting Bandage, or to tie the Napkin, before in Use, tighter round the Abdomen; this is to be repeated, till there is a perfect Agglutination, and the Urine discharges itself entirely through the natural Passage. The Wound heals sooner or later, according to the Patient's Constitution; in some in three Weeks, in others a Month, and sometimes longer.

FURTHER OBSERVATIONS.

When the Patient is able to rise, sit, and walk, and seemingly desirous of it, I indulge him; or, if he chooses to lie on his Side, I do not positively confine him to his Back, as some do, to his great Uneasiness. I am encouraged in this by a Patient of mine, about thirteen Years old, who left his Bed the seventh Day after the Operation, and walked about, without my Consent: This was of no ill Consequence; for the Wound was completely healed the fourth Week. Sometimes the natural Passage of the Urine is obstructed by a sandy mucous Matter: The Patient should then be laid on one Side, and some warm Water should be injected through the Urethra into the Bladder, by which the Matter may be expelled through the Wound; or it may, by the Introduction of a Pipe into the Urethra, be blow'd into the Bladder, and so ejected through the Wound. By either of these Methods, the Urine passes afterwards in its proper Course. This *Rungius*, a Surgeon of *Bremen*, practised after me. If the Stone breaks in the Extraction, the Fragments may be taken out with the Fingers; but, when they are insufficient, *Rosset* has contrived a convenient Instrument, like a narrow Spoon, and curved in a particular manner, which will extract both the Pieces and Sand, if there are any. For promoting the Agglutination, *Rosset* advises the Introduction of a Catheter through the Urethra into the Bladder, that the Urine may discharge itself there, without passing through the Wound. *Morand*, in Imitation of this, used a short Catheter, and from that found great Advantages.

That this Method may not be thought an unnecessary Invention, I shall briefly consider its principal Advantages above the preceding: And first, as in this Operation neither the Sphincter, or Neck of the Bladder, Urethra, nor Prostate Gland, are wounded by the Knife, Forceps, or any Instrument, nor injur'd by the Extraction of the Stone, there is no room to fear an Incontinence of Urine, or a Fistula in the Perinæum or Urethra, which are the usual Consequences of the Apparatus major, and even the Lateral Operation. 2. When the Stone is large, rough, angular, or prickly, in either of them the Neck of the Bladder, and Prostate Gland, are violently lacerated and wounded, which is followed by intense Pains, Inflammation, Gangrene of the Bladder, Convulsions, and Death; whereas in this, since the Incision is made in the anterior Part of the Body of the Bladder, immediately above the *Ossa Pubis*, no such Symptoms in the Neck and Urethra are to be apprehended. 3. For the same Reason, the Parts of Generation, as the Muscles of the Penis, the Prostate Gland, and the seminal Vessels, with their excretory Ducts, are not injured; whereas a Wound in those Parts by the Apparatus major, or in the Lateral Operation, frequently renders a Man impotent, or, at least, not so capable of Procreation. 4. Since there are only a few small Blood-vessels distributed in the upper Part of the Bladder, and the Rectum with the Ureters are at a Distance from the Wound, neither they, nor the large Blood-vessels, can be injured, as they frequently are in the other Methods; whence a dangerous Hæmorrhage, and other bad Symptoms, are induced. 5. If the Stone is rough, or sharp-pointed, (which may be known by the violent Pains, and frequent Discharge of bloody Urine, as well as by the Touch of the Finger in the Anus) the Extraction is scarcely practicable by the Apparatus major, minor, or Lateral Operation; but in this Method it is very easy, as the Wound may be enlarged to any Degree necessary. 6. This is performed with fewer Instruments than the Apparatus major, or Lateral Operation; and the Stone may be often extracted with the Fingers only; but simple Methods are always preferable to complex and difficult ones. 7. Neither the Bladder nor Urethra are molested or irritated by Catheters, which *Toler*, and others say, produce an Inflammation. 8. If the Male or Female Conductor be thrust into the Bladder too violently or deeply, in the Apparatus major, or the Lateral Operation, it is frequently wounded, or entirely perforated; which, according to *Garengeot*, is mortal: But these Instruments are not used in the High Operation. 9. It is not necessary to bind the Patient in so formidable a Position, as the Apparatus major requires, which has almost destroyed some weak Persons before the Operation. 10. By this Method we can pass our Fingers further, and with more Ease, into the Bladder, than by any other; and, consequently, judge better of the Size, Figure, or Number of the Stones, with the most convenient Manner of extracting them, and whether the Bladder is thoroughly cleansed. *Denys*, the greatest Advocate for *Rau's* Method, confesses, that it is difficult by that to find the small Stones; and this, says he, is common to the rest: But the High Operation is not liable to that Defect, as we are assured from Experience, and as he himself acknowledges. If the Stone is so small, that it cannot be taken hold of by the Forceps, in the Lateral Operation, he advises the Surgeon to desist; whereas he might easily extract it by the High Operation. Nor have we any one Instance, where it could not be extracted this way, and the Operator was obliged to relinquish his Work. And therefore it is preferable to the Apparatus major, or Lateral Method. 11. If the Stone adheres or grows to the Bladder, which *Rosset*, *Douglas*, and others, deny, tho' it is confirmed by the Experience of *Middleton*,

dleton, Thornhill, and myself, it may be often separated by the Fingers: And, when it is too large to be extracted, we do not torture the Patient to Death, as in other Methods; but prudently desist in time. 12. The Stone is not so subject to break in the Extraction, as in the Apparatus major, because the Aperture is large, and capable of being further enlarged, as the Bladder is more dilatable in its Body, than its Neck: And, if it should break, the Pieces may be easily extracted by the Fingers, Scoops, or some proper Instruments. 13. Longitudinal Stones, situated transversely in the Bladder, cannot, without Danger and Pain, if at all, be extracted by the other Ways; whereas, in this, there is neither Difficulty nor Hazard; for they may be securely laid hold of, in their least Diameters. 14. If the Stone cannot be found or extracted in the Apparatus major, or lateral Operation, either from a Concealment in some Fold of the Bladder, as *Riolanus* has observed, or any other Cause; or if the grooved Catheter cannot be passed into the Bladder, on account of an Inflammation or Tumor in its Neck, or at the Prostate Gland, or the exquisite Pain, or a Cicatrix, Hardness, Tubercle, or Stone in the Urethra, or Neck of the Bladder, or a Phymosis, or an Aversion in the Patient to the Catheter, Instances of which are not uncommon, in all these Cases the High Operation is the only Method of Relief; and, therefore, preferred by *Chefelden, Greenfield, Morand*, and others; though the Apparatus minor will answer all these Purposes in Boys, and Adults of a low Stature. 15. One of the principal Advantages, according to *Petrus* and *Rosset*, is, that any young Beginner may undertake it, because the Incision is of no great Depth, and directly down through the integuments and Muscles into the Bladder, without regarding the Windings of the Urethra. This perhaps is true, when the Bladder is previously distended with a convenient Liquor: But, when this cannot be done, it is not so easy, and becomes dangerous, from the small Space between the Ossa Pubis and Peritonæum, where the Incision is to be made; for the least Slip will wound the Fundus of the Bladder, which is fatal, especially if the Incision is made from above downwards, as some advise; this therefore would require a skilful Anatomist and Surgeon: For which Reason, from *Rosset's* Time, we have been advised to distend the Bladder. And for the same Reason, *Tolet* advises a frequent Performance of this Operation on dead Subjects, before we undertake it on the living, and especially (which is worth notice) after a Discharge of the Urine.

Before we finish this Head, it may not be amiss to obviate some of the principal Objections against this Method. *Denys*, a strenuous Defender of *Rau's* Method, tells us, that the High Operation is, in many Cases, impracticable upon many Accounts; and that those who could not be cured by that, might by the lateral Operation. But, as he has produced no one of these many Cases, nor mentioned a single Instance where his Method effected a Cure, which the High Operation could not, and as my own Experience convinces me to the contrary, I shall not, upon his bare Assertion, subscribe to that Opinion. He relates indeed a Case, where *Rau* could not extract the Stone by the High Operation; and another, which happened to *Bertelins*, whom I have often seen practise this very Method dextrously. He allows, indeed, that it will cure some young Children, (and, of consequence, does not absolutely disapprove of it) but not all. Here again I could wish he had specified some particular Instances, since the Advocates for the contrary Opinion are armed with so many.

His second Objection is, that it is longer in the Performance than the Lateral Method: But this is false, if we except the previous Distention of the Bladder, which is not the Operation, but only one of the preparatory Requisites; and *Denys* himself owns there are many Obstacles in *Rau's* Method, and the Apparatus major, which prolong the Operation, particularly that *Rau* himself was once three Quarters of an Hour in searching for and extracting the Stone. I will, therefore, boldly assert, that the High Operation is, in many Cases, more expeditious than the Lateral; as when the Stone lies concealed in some Cavity, or on either Side of the Bladder, or under the Ossa Pubis, or when it is small; for, by this Method, there is Room enough to search every Part of the Bladder with the Fingers, which are the best Instruments both for searching and extracting; especially if an Assistant protrudes the Bladder and Stone forwards with his Finger in the Anus. So that in this Way the Stone may be often extracted by the Fingers only; or, if it is large, by them, with the Assistance of a Forceps, or Hook; while, in the Lateral Method, the Operator is often a long time searching for it in the Dark with his Forceps, and longer in extracting it.

The third Objection is, that it is more painful. But this is not certain; for I have seen Children, who, upon other Occasions, cry violently, make but little Noise from the Pain of this Operation. I must confess, that a large, rough Stone gives exquisite Torment, and this Inconvenience is common to all the Methods; but the High Operation is least subject to it.

Further, *Denys* objects, that it cannot be performed on all Subjects, especially Children and Infants, from the Smallness of their Bladders. But this is so far from being true, that *Douglas, Chefelden, Middleton, Morand*, and others, have practised it

upon Children of three or four Years old; and it generally succeeds best at that Age under a judicious Hand. He objects too (from *Pag. 99. to 105.*) with *Garengot*, and some others, that the Bladder must necessarily be distended with Water to such a Degree, that it may ascend a good Way above the Ossa Pubis; but this is impracticable in small and thick Bladders, and therefore it does not succeed with all. I own the Operation may be performed with more Expedition and Safety, when the Bladder is greatly distended; but must deny the absolute Necessity of this Distention, since a skilful Surgeon may perform it, even when the Bladder is entirely collapsed. This Inconvenience, therefore, should not be imputed to the Operation, but the Operator. And the Reader may remember, there was no Distention, where *Franco* and *Rosset* could not extract the Stone by the Wound first made in the Perinæum; and yet they took it from the collapsed Bladder, without wounding its Fundus, or the Peritonæum. Thus *Prochisch*, and myself, performed it, by a slight Compression of the Urethra, and a Retention of the Urine, after drinking Tea plentifully, without any Injection; to omit the Instances given by *Berriere*, described by *Morand*, and other Instances where the Clamours of Children rendered the Repletion impossible.

He objects (*pag. 101.*) that, when the Bladder has been filled, the Penis must be strongly compressed by the Finger, or a Ligature, lest the Water should return, before the Incision is made into the Bladder, which causes Tumors, an Inflammation, and other dangerous Symptoms. These never occurred to me; nor can I conceive it possible they should; for a very slight Compression will retain the Liquor, and it may be performed by the Instrument (*Tab. XLVII. Fig. 9.*) which I recommend for an Incontinence of Urine. *Winslow* has, likewise, proposed an Instrument for the same Use, which *Nuck* has exhibited in his *Operat. Chir. Fig. 11.* and may be seen (in *Tab. XLVII. Fig. 10.*). The next Objection is, that the Patient is obliged to lie constantly on his Back. This is not true; for he may lie on his Side or Belly, if he pleases, which *Douglas, Winslow, Morand*, and others, advise after Suppuration, as it promotes the uniting of the Wound. Lastly, he objects, (*pag. 108. and 116.*) that the Fragments and Sand may be more easily extracted by the Lateral Method. Now, as I have already proved, the principal Advantage of the High Operation is, that the Bladder may be more perfectly cleansed by that, than any other Way. For *Denys* himself acknowledges the Difficulty of it in the Apparatus major, and Lateral Operation; whereas in this, when the inferior Part of the Bladder is elevated by an Assistant, they may be easily found and extracted by the Fingers, or proper Instruments. *Denys* asserts, that this Method of Cure produces an Incontinence of Urine; but this is overthrown by common Experience. In a Word, all the Advantages which he ascribes to *Rau's* Method (*pag. 119.*) may be justly attributed to the High Operation. And *Le Dran* and *Chefelden*, on many Accounts, prefer it to the Apparatus major.

But to obviate the Imputation of approving the High Operation only, and despising all other Methods, I shall briefly enumerate the Cases, in which it is less convenient. And, first, it is unsuccessful in old Men, and even after the thirtieth Year of Life; for, according to *Middleton* and *Douglas*, such Subjects generally die; and *Smith* says, that all above thirty or forty Years old, on whom he performed this Operation, have died, except one. And I myself have cut four, who exceeded that Age, and not one recovered. Further, it seldom succeeds, when the Patient is afflicted with other Diseases, especially an Ulcer in the Kidneys, or Bladder; or is debilitated by a Consumption, or has a scirrhous Bladder; for, in these Cases, all Writers prefer the Section in the Perinæum, because the Bladder may be more easily cleaned, and the Wound better healed by it, which is confirmed by Experience. Lastly, the High Operation is more difficult in small Bladders, which may be known partly from the small Quantity of Urine they are capable of containing, and partly from the Difficulty of moving the Catheter in them. And here I would advise the Surgeon, unexperienced in performing this Operation on collapsed Bladders, to choose any other Method, for fear of wounding the Peritonæum and Fundus of the Bladder, though it is not absolutely impracticable, even in small Bladders. From hence it is manifest, that a prudent Surgeon will sometimes prefer one Method, sometimes another, according to the different Constitution of the Patient, the State of the Bladder, the Stone, and other Circumstances. If the Reader would know more, let him consult *Douglas, Middleton, Chefelden, Rosset, Morand, Le Dran*, and *Garengot*; to which he may add *Heister's Dissertation de Apparatu alto*, published at Helmstadt, in the Year 1728.

THE LATERAL OPERATION.

About the End of the last Century, there was a famous French Lithotomist, named *Frere Jaques*, whose unusual Method of cutting for the Stone attracted the Eyes of every body on him, and even to this Day he is so much talk'd of, that we think ourselves obliged to say something of him, and his Method. About the Year 1697, this obscure Monk came to Paris, from some of the remote Parts of France, destitute of Clothes, Money, and

Videbatur;

Viſuals; but of an open Temper and Simplicity of Mind. He produced Teſtimonies of his Succeſs in ſeveral Provinces, by his new and unknown Way of Lithotomy. He asked no more Reward, than would repair his Inſtruments, and mend his Shoes. At length, addreſſing himſelf to the King's Phyſicians, and the principal Surgeons at *Paris*, he beg'd he might be permitted to cut and cure ſuch Patients as were afflicted with the Stone in that City, and the Hoſpitals, aſſuring them, that he came thither only to teach them a better Method. This they at firſt looked upon as a Piece of Inſolence; but, being taken with the Novelty of the thing, and partly out of Curioſity, gave him leave to make an Experiment on a dead Subject, which had a Stone conveyed into the Bladder. It is ſaid that *Faques's* Name was *Beaulieu*, and that he came either from *Befançon*, or *Beaufort*.

The dead Subject being ready, he began his Operation in the Preſence of ſeveral Surgeons and Phyſicians. Firſt, when the Body was laid, and ſecured, in the uſual Poſture, upon the Table, he introduced a round, not grooved, Catheter into the Bladder in the uſual Method, and with that preſſed the Bladder to the Left Part of the Perinæum; then he made an Inciſion near the Perinæum, but a little different from the common Practice, with a Knife ſomewhat longer, too, than the common Knife. He directed this upwards from the Anus, and divided the Parts almoſt in a right Line, on the Left Side of the Perinæum, about two Fingers-breadth from its Suture, the Inciſion aſcending upwards, to about the Middle of the Perinæum; by which he cut whatever was between the Skin and Catheter, with the Neck of the Bladder, and the Bladder itſelf, leaving the reſt of Urethra entire. Next, paſſing his Finger through the Wound into the Bladder, he ſearched for the Seat of the Stone; having done this, he introduced an Inſtrument, like a Spoon, which ſerved for a Conductor, and, by the Help of that, introduced the common Forceps; then he drew out the Conductor, laid hold of the Stone with his Forceps, and extracted it very dextrouſly, to the great Surprize of the Spectators, though it was as big as an Hen's Egg.

Upon Examination, the Surgeons found he had firſt cut thro' the common Integuments of the Perinæum, about the Length of two Fingers-breadth; that the Wound paſſed between the Accelerator Urinæ and Erektor Muſcle of the Penis, on the Left Side of the Perinæum, without wounding either of them, till it penetrated the Neck of the Bladder, and the Bladder itſelf, in a right Line, for about an Inch; and that he had extracted the Stone through this Aperture. Having duly conſidered theſe Particulars, ſeveral of them, and eſpecially *Mery*, preferred this Method to the Apparatus major, as attended with leſs Danger: For, in that, it is not only neceſſary to divide the Urethra, but the narrow Neck of the Bladder, and its Sphincter, with the Proſtate Gland, muſt be forcibly dilated, and, if the Stone is large, receive further Injury by the Violence uſed in the Extraction. However, as the Majority are not fond of introducing new Methods, it is no Wonder he was prohibited to perform his Operation on a living Subject.

Upon this cold Reception, *Faques* applies to the King's Surgeons and Phyſicians at *Fontainebleau*; to them he ſhews his Letters of Recommendation, and Teſtimonials of Cures, begging Leave to perform his new Method of Lithotomy on a young Man, a Taylor. His Requeſt was immediately granted. He performed it in the preceding Manner, before the King's Phyſicians and Surgeons, with ſuch Succeſs, that the Patient was about the Streets in three Weeks time, without one of the uſual bad Symptoms attending the common Method.

This procured him the Reſpect of every body, not excepting the King himſelf; and the *Parisians* thought him ſent from Heaven for the Relief of the Diſtreſſed. In the following Spring, *Anno* 1698. he returns, with the King's Licence, to *Paris*; and performs on a great Number of Patients, amidſt ſuch a Crowd of Spectators, that it became neceſſary, at laſt, to diſperſe them by Soldiers.

It is to be obſerved, that he never prepared his Patient by Bleeding, Purging, or Diet; nor did he uſe any Ligatures, as in the other Methods: For, when he was laid on the Table, his Legs were bent upwards, and he was only ſecured by ſtrong Aſſiſtants. In his Extraction of the Stone, he was, by the Report of *Dionis*, and others, ſo cruel, that the moſt intrepid Surgeons were ſtruck with Horror, and lamented the Miſfortune of thoſe unhappy Wretches who fell under his Hands. And he was no leſs unconcerned afterwards, either about dreſſing the Wound, or ordering the Patient a proper Regimen; for, if he deſired his Care in thoſe Reſpects, his Anſwer was, It is ſufficient, that I have extracted the Stone; God will cure you. He treated Men and Women indifferently; but generally wounded the Vagina, ſaying, that Wound was of no Conſequence.

But, to form a true Judgment of his whole Proceedings, we muſt conſider the ultimate Event of them; and this, in general, will appear with no very good Aſpect: For, if we may credit what *Mery* ſays, in his Diſſertation, published at *Paris*, 1710. out of ſixty Patients whom he cut in the Spring of that Year, twenty-five died, thirteen only were cured, and the reſt were troubled with a Fiſtula, or an Incontinence of Urine. And *Dionis*, ſeven

Years after, in his Surgery, aſſures us, that above half *Faques's* Patients died of the various ſupervening Symptoms; and that it was wonderful any one ſhould ſurvive the Cruelty and Imprudence of his Method: In Confirmation of which, he alleges the Taylor of *Fontainebleau*, by whose means he acquired his Reputation, who was not only ever afterwards troubled with a Fiſtula in the Perinæum, but found a continual Decay of Conſtitution; and, within two Years, exchanged a miſerable Life for Death. On the contrary, he aſſirms, that out of twenty-two Patients, cut in the ſame Spring by others, three only died, and almoſt all the reſt were reſtored to perfect Health.

Upon inſpecting his dead Patients, theſe reputable Authors frequently found the Bladder cut quite off from the Urethra; in others they found a Cancer or Sphacelus in the Bladder, or Inteſtines. In others the Muſcles of the Penis, Nerves, and Blood-veſſels, were often divided by the Knife. In ſome, the Elevator of the Anus, with the hypogaſtric Veſſels, were ſeparated. And, again, in ſome, the Part of the Bladder toward the Cavity of the Abdomen was obſerved to be perforated three or four times; in others the Wound of the Bladder appeared very unequal, and in ſome Places lacerated and diſtorted. They ſometimes found the Rectum cut, and conſequently the Fæces were diſcharged through the Wound; and in ſeveral Women, beſides the Injury of the Rectum, he wounded, together with the Bladder, the Vagina, which muſt make a Paſſage for the Fæces through the latter. And laſtly, by wounding ſome of the large Blood-veſſels, there followed ſuch an Hæmorrhage, that the Patient died under the Operation, or ſoon after it.

Nor was he conſtant in making his Inciſion in the ſame Place; for at one time he would divide the Perinæum an Inch higher, or lower, than at another; thro' which Inconſtancy and Negligence ſometimes one Part, ſometimes another, muſt be wounded. Beſides, he was often ſo unprovided with Inſtruments, that he uſed a common Razor inſtead of the proper Inciſion-knife. And I myſelf, in *Holland*, have heard the *Dutch* aſſert, that for want of his own Inſtrument he has often uſed a common blunt Knife, which muſt expoſe his Patients to the greateſt Dangers. While he was in *Paris*, he obſtinately cut a Lad near the Anus, though the Stone was fixed in the Urethra, behind the Scrotum, in the Perinæum, though it would have been more prudent to have done it in that Part where the Stone ſhewed itſelf. This Behaviour is the leſs to be wonder'd at, becauſe he was utterly ignorant of Anatomy and Surgery, unleſs that he would, upon every Occaſion, undertake the Cure of Ruptures by the Knife. But as in that Operation he deprived even a Child of its Teſticle, without any Neceſſity, it is more than probable, that he was the Diſciple of ſome Mountebank, eſpecially as he never would own where he learnt his Art.

By this inconfiderate and unſucceſſful Treatment of his Patients, and the Danger of Death, that threatened the *Marſhal de Lorge*, the Day after he was cut, though *Fagon* preſerved him, the Reputation of our new Lithotiſt began to decline, and at *Paris* they pronounced him an ignorant, impudent Operator. He, therefore, ſhifted his Quarters, travelled through moſt Parts of *France*, and came at laſt to *Holland*; from thence he went thro' moſt of the principal Cities in *Germany*, performing his Operation in all of them, but generally with his uſual ill Succeſs: So that, for the firſt Years, he gained no Character in thoſe Countries. However, it is worth obſerving, though known to few, what *Saleman*, a celebrated Phyſician and Surgeon of *Strasburg*, tells me, in a Letter, that *Faques* had improved upon his old Method of Lithotomy, and in the Year 1712. and the Beginning of 1713. had ſucceſſfully cut ſixteen Patients in that City, uſing a grooved Catheter; adding, that he ingenuouſly confeſſed to him, that he had abſtained from his former rath Method for about a Year, and now treated his Patients in a more judicious manner. I mention this Circumſtance, as it is taken no notice of by others, to complete the Hiſtory of this Man. Agreeable to this is the Account *Febrinus* gives of him, when he ſays, that out of ſixteen, lately cut by *Faques* at *Strasburg*, one only died, who was an old Man, and this he predicted. In the laſt-quoted Author we have a very exact Deſcription of *Rau's* Method, long before it was published by *Albinus*, as he ſays he had often ſeen him perform it. *Schaffer* gives us pretty near the ſame Account of *Faques*. And *Weisbach* ſays, that, out of twenty, ſcarce one miſcarried, and that they were all cured without any Fiſtula; but he neither mentions the Time, or Place, where he ſaw this, though I ſuppoſe it was at *Strasburg*, as that was his Place of Reſidence.

But, however rath or imprudent this Method was in itſelf, it certainly ſupply'd more expert Surgeons and Phyſicians with an Hint for the Improvement of their Practice: For by this, as *Dionis* obſerves, are we improved in the Puncture of the Perinæum for the Cure of a Suppreſſion of Urine. For the Bladder may be more ſafely and commodiouſly perforated by the Trocar, than its Neck, as the Practice was before *Faques* perforated that Part. And further, he ſays, this very Method might be followed by an able Surgeon well-ſkilled in Anatomy, though it ſucceeded to ill in the Hands of an ignorant Operator. But he gives us no Directions for avoiding the Errors of *Faques*.

Mery

Mery thought it worth while to publish a Treatise, wherein he persuaded the Surgeons to come into this Practice, though he soon after used his utmost Endeavours to dissuade them from it again. But, instead of the cylindrical, he recommended the grooved Catheter. This, says he, being passed into the Bladder, and then held in the Left Hand, must be thrust towards the Left Side of the Perinæum, as *Jaques* did. The Operator must then, by the Direction of the Catheter, cut thro' the Perinæum, with a proper Incision-knife, such as is used in the Apparatus major, so as to divide the Neck of the Bladder, and the Part which lies next it, continuing the Incision, with Caution, obliquely downwards towards the Left Os Ischii, till the Aperture is large enough for the Extraction of the Stone. Through this Wound, an hollow Conductor, as in the Apparatus major, must be introduced into the Bladder, and the Stone extracted by a convenient Forceps. But though we here allow *Mery* to be the first and real Improver of *Frere Jaques's* Method, yet he never tried it on any living Subject, but rather exclaimed against it very soon after, and gave the Preference to the Apparatus major. However, after this Improvement, *Mareschal* cut with Success at *Paris*, as *Lifter*, after his Return home, was informed by *Proby*, who still continued there, and saw *Frere Jaques* cut for the Stone, in the Year 1698. August 2. The Surgeons of *Paris*, says he, in his Letter, decry *Frere Jaques*, though they follow his Method; for *Mareschal*, from that time, differed from him in nothing but using the grooved Catheter. *Le Rue* at the same time cut in the old Way, but his Success was far short of *Mareschal's*; for all, who were cut by the latter, were alive and well, while *Le Rue* lost one or two, and the Survivors did not recover so soon as those cut by *Mareschal*.

RAU'S METHOD:

This Method was afterwards corrected and practised in *Holland*, by *Rau*, whose Character the Physical World can be no Stranger to. He had not only seen *Frere Jaques* perform it in *Holland*, as *Albinus* the Father and Son inform us, with *Ruyfch*, and many others, at *Amsterdam*, but probably was acquainted with the Improvements of *Mery*, and *Mareschal's* Success. He with a surgical Boldness, and great Skill in Anatomy, like *Frere Jaques*, and the Antients, cut first through the Perinæum, then the Neck of the Bladder (a), and Bladder itself, which *Mery* assures us, was *Frere Jaques's* constant Practice, and what I have frequently seen him do at *Amsterdam* (b). *Rau* used the grooved Catheter, recommended by *Mery*; but, like *Frere Jaques*, had it somewhat thicker than common (c). Then instead of the grooved he used two ensiform Conductors, Male and Female (Tab. XLIX. Fig. 2, 3.); but his Knife and Forceps were the same, as in the common Method. He laid his Patients on their Backs, almost in the same manner as *Frere Jaques*, with their Buttocks elevated; but he fastened them with a Ligature different from the common, and less terrible. Instead of the two long Bandages, which others put about the Neck and Limbs, in so shocking a manner, *Rau* applied two short, flat Bandages made of Woollen (but they may be of Linen or Silk) each about four Feet long. Having made a Noose, he fastens the Right Wrist to the Right Knee with one of them (see Tab. L. Fig. 10. A); and with the other secures the Left Wrist in the same manner.

This Method of Lithotomy was so peculiar to *Rau*, that he, and not *Mery* or *Mareschal*, has been esteemed the Author of it, and from him it has been generally called *Rau's* Method of Lithotomy. But from the Year 1726. when Dr. *James Douglas* published his Treatise on the Lateral Operation, and *Chefelden* improved it farther, it has been called the Lateral Operation, because the Incision is made rather on one Side of the Perinæum and Bladder, whereas, in the Apparatus major, it is only in the Urethra.

In the Year 1709. I, says *Heister*, performed this Operation on a Boy of about fifteen, in the Presence of *De Quare*, and others, extracting a Stone that weighed two Ounces. In 1712. I cut another of seven Years old, and both with Success. From whence, I think, it appears, says he, that I performed it first after *Rau*.

In the Year 1694. *Rau* went from *France* to *Leyden*, there took his Doctor's Degree regularly, and, settling at *Amsterdam*, read private Lectures on Phylis and Anatomy. Soon after *Frere*

Jaques's Departure he applied himself more closely to Lithotomy, and, meeting with extraordinary Success, was honoured with the Title of The States Lithotomist.

Chefelden improved upon *Rau*, though before him *Bamber* had made one Improvement, by filling the Bladder with Water. But *Douglas*, who gives us this Account, does not mention, how the Water, which was undoubtedly conveyed through the common Catheter, was retained in the Bladder, between the Extraction of that, and the Introduction of the grooved Catheter; for at that time it is probable it would flow out, and consequently the Distention could be of little or no Service. *Chefelden*, however, varied from *Rau*, in several Points, and proceeded in the following manner.

CHESELDEN'S METHOD.

He used a square Table, higher at that End where the Patient's Buttocks are placed than at the other (e), and, laying him on his Back, puts a Pillow under his Head, and another under his Hips, so that his Abdomen is lower than either of them: He, next, draws his Buttocks a little over the Edge of the Table, divaricates his Knees, and bends them in a convenient Posture; then ties his Wrists to his Ankles: In this Position two Assistants secure his Legs and Feet, while a third holds down his Shoulders, to prevent his moving. *Chefelden* then passes a Steel grooved and cannulated Catheter (f) through the Urethra into the Bladder, and thereby conveys as much Water into it as the Patient can bear without an Excess of Pain. But, to prevent a Reflux, he compresses the Penis with a Woollen Ligature, the Catheter still remaining in the Bladder (g). The Handle of this Catheter he gives to an Assistant, who retains it there. After this, *Chefelden* seats himself in a Chair, of a proper Height, and performs the Operation. He first makes an Incision with a Knife having a convex Edge, beginning an Inch above the Anus, on the Left Side of the Suture of the Perinæum, between the Accelerator Urinæ, and the Erector Penis; and, descending obliquely to the Outside of the Sphincter of the Anus, he divides the Skin, Fat, and Part of the Levator of the Anus, by one Incision, (contrary to *Rau*) of two, three, or more Inches, according to the different Age and Size of the Patient. When this is done, he introduces the fore Finger of his Left Hand into the Wound, and thrusts the Rectum aside, that it may not be injured by the Instrument: Then he takes a crooked Knife, and with his Right Hand passes the Point (directed upwards) near his Left fore Finger into the Bladder, betwixt the seminal Vessel and the Os Ischium; then, pressing down his Right Hand, he continues a second Incision upwards, till the Point comes out again at the upper Part of the Wound. The Bladder being thus open'd, he introduces the fore Finger of his Left Hand into its Cavity: With that he feels, and fixes the Stone, then passing a Forceps, without any other Conductor, over his Finger, he endeavours to lay hold of the Stone with them; which being done, he draws out his Finger, and, grasping the Forceps with both Hands, extracts it with more or less Violence, in proportion to the Bulk and Shape of the Stone, and the Size of the Wound. If there are more Stones, he again introduces his fore Finger, and the Forceps, proceeding as before. During this whole Operation the Catheter remains in the Bladder, and the Assistant's Employment, who holds it, is only to prevent its slipping; and in this manner *Chefelden* thinks the Bladder sufficiently depressed for the Introduction of the Forceps over his Finger, without any Conductor; and, as it is previously distended with Water, he judges it impossible and unnecessary to cut into the Groove of the Catheter; and that there is no Danger of laying hold of the Catheter with the Forceps, if the least Care is taken. In this Method only one or two Ramifications of the Arteries, from whence there can be any Danger of an Hæmorrhage, are divided, and that very seldom. But if, after the Wound is cleaned with a wet Sponge, a Profusion of Blood continues, he ties up the Arteries with a crooked Needle and Thread (see Tab. LII. Fig. 14.); then, dressing the Wound with Lint, either dry, or spread, over with a resolvent Ointment, and secured with proper Bandages, he puts the Patient to Bed.

By this Method, if he meets with no extraordinary Impediment, the whole Operation, from the first Incision to the Extraction of the Stone, is completed in one Minute.

(a) As *Albinus* the Father says, though the Son and *Dionis* will have it, that he divided only the Bladder itself.

(b) When I, at that time, and afterwards, performed the Operation on dead Subjects, I always found both the Neck, and Bladder itself, cut through; which I imputed to my own Ignorance in the Art of dividing the Bladder only.

(c) The Reason, as he told me, was, that the Knife might pass more readily into its Groove, and not easily slip out again. It is represented in Tab. LII. Fig. 1. and, notwithstanding what *Albinus* the younger says, I do not find it more incurvated than the common Catheter; for the Apparatus major requires a very crooked Catheter.

(d) The Posture in which *Rau* placed his Patients is, perhaps, best described by *Erndellius*, in his *Iter Anglic. and Batav.* p. 119. He sometimes laid the Patient on a little Chest, which I myself have seen, for Want of a Table. *Garengot*, therefore, is mistaken, when he says, he placed and bound his Patients, as in the Apparatus major.

(e) This Table was three Feet and an half long, two and an half broad, and three high.

(f) It were to be wished *Douglas* had delineated this Catheter; for it is not easy to conceive, by this short Description, how it could be hollow and cannulated at the same time.

(g) But *Douglas* has not told us, how he stoppt the Reflux of the Water through the Catheter; which must certainly be closed by the Assistant's Finger, or some proper Ligature.

Chefelden is sometimes obliged to vary his Method: First, When he finds by a strong Resistance, or any other Token, that the Stone is very large, lest he should torture the Patient, or lacerate the Parts, he enlarges the Wound by a second Incision upwards with Scissars, or downwards with his Knife. Secondly, If, after this Incision, upon passing his Finger into the Bladder, he finds the Catheter has slipped into the Wound, he draws back his Finger, and introduces the Gorget into the Groove of the Catheter, over which he passes the Forceps in the usual manner; and, upon account of this Accident only, he gives the Preference to the grooved Catheter. Thirdly, If the Assistant, who holds the Catheter, finds the Forceps has laid hold of it, either with or without the Stone, which *Chefelden* affirms to be very uncommon, he immediately orders the Catheter to be drawn out, endeavouring to lay hold of, and extract the Stone, without the Advantage, which that might afford him, by depressing the Bladder, and facilitating the Introduction of the Forceps over the Finger, or by a Conductor, when there is, on account of some Accident, Occasion to repeat this more than once. Fourthly, When from the Smallness or Situation of the Stone he judges it more easy and secure, he introduces his Fingers into the Patient's Anus, presses the Stone towards the Wound, and extracts it, as in the Apparatus minor, with his other Hand. Fifthly, When he perceives an Impediment, either from the Ureter, or the Membranes and unusual Folds of the Bladder, he passes his Fingers into the Anus, endeavours to protrude that Part to the Mouth of the Wound; then divides the Membranes, or whatever obstructed the Passage, and extracts the Stone. These are the Improvements *Chefelden* has made on *Rau's* Method of Lithotomy: However, *Douglas*, on some Occasions, prefers a Forceps somewhat incurvated; for, says he, I have often observed, that the Stone is extracted with more Ease, when it lies near the Wound, than when it is on the opposite Side; especially if there is a preternatural Sinus in that Part: In these last Cases he thinks the crooked Forceps will perform the Work better than the straight ones.

ANOTHER METHOD OF *CHESELDEN's*.

But, however advantageous this Method appeared at first, *Chefelden* soon rejected it; because the Urine, lying in the cellular Membrane near the Rectum, often produced a fetid Ulcer. In the room of it he substitutes the following: He secures the Patient, as in the Apparatus major; but lays him upon an horizontal Table, three Feet high, and cover'd with several Cloths, in such a manner that his Head only is a little elevated: After this, he makes an Incision of a proper Length, beginning where they end in the Apparatus major, and continuing it downwards between the Accelerator Urine, and the Erector Penis, on the Left Side of the Intestinum Rectum; next, he searches for the Catheter in the Wound, and, having found it, divides the Prostate Gland in a direct Line towards the Bladder, depressing the Rectum with a Finger of his Left Hand, that the Knife may not wound it: The Remainder is perform'd after the manner of the Apparatus major; with this only Difference, that, if any Blood-vessels are separated, he secures them with a crooked Needle and Thread.

Douglas has given us a more particular Description of this Method, than *Chefelden* himself. First, he tears the Patient on a Table, and secures him with Ligatures; then he introduces his Catheter, (*Tab. LII. Fig. 5.*) somewhat different from the common Sort, into the Bladder. When the external Wound is sufficiently large, he directs the Point of his Knife, of a peculiar Size and Figure, (*see Tab. LII. Fig. 8.*) towards the Catheter, furnished with a Groove, as is represented *Fig. 4.* and *7.* which is still in the Bladder, in such a manner, that he makes a rectilinear Incision through the posterior Part of the Urethra, immediately behind the Bulb, the Neck of the Bladder, and Prostate Gland, and Part of the Bladder itself: This is done on one Side (*see Tab. L. Fig. 1. K L.*). After this, he rises from his Seat, and gradually dilates the Wound with the fore Finger of his Left Hand; then calls for the Gorget (*Tab. LII. Fig. 9.*) with a crooked Handle *A A*; the Beak *C* he passes through the Groove of the Catheter into the Bladder, to feel for the Stone; then takes the Handle in his Left Hand, and, after extracting the Catheter, introduces his Forceps, (*Fig. 12.*) whose Handles *A A* vary from the common ones; he passes these cautiously, with the plain Side upwards, through the Groove of the Gorget, into the Bladder; then, having drawn out the Gorget, he takes the Handle in both Hands, and, keeping them shut, searches for the Stone; which being found, he opens them, and endeavours to take Hold of the Bottom of it with the lower Jaw: When he has hold of it, he applies his Left Hand to the Middle, and his Right to the End of the Handle; then moves them gently in various Directions to expand the Parts, and facilitate the Extraction of the Stone, taking particular Care, that it does not slip out; but, if this happens, he endeavours to lay hold of it again, without drawing out the Forceps. If the Stone is large and smooth, lying near the Wound, he extracts it without the least Difficulty; but if it is small, or in an inconvenient Situation, he draws out the Forceps, passes his Fingers into the Bladder, and endeavours to disengage it from

the Folds; then he introduces his Gorget once more over his Finger, and, withdrawing that, turns the concave Part of the Gorget upwards, through which he again passes the Forceps, searches for the Stone, and extracts it very cautiously and slowly. Lastly, To prevent the Stone from breaking, he puts one or two of his Fingers between the Cheeks of the Forceps, that they may not compress it too violently: But if it does break, or there are more Stones than one, he extracts them, by repeating the former Operation; and assures us, there is no Danger, if it is performed with Caution. He makes his external Incision almost in the same Part as *Jagues* and *Rau*; but continues it both upwards and downwards; by which means he passes the Instruments, and extracts large Stones, with more Ease; and internally he makes an Incision in the End of the Urethra, the whole Neck of the Bladder, and that Part of the Body nearest to it; by which he avoids wounding the Rectum, and promotes the Extraction of the Stone. If an exterior small Artery bleeds too profusely, he ties it; but, if it is too deeply situated for a Ligature, he applies a Styptic. Having extracted the Stone, he dresses the Wound with a digestive Ointment, and proper Bandage; then puts the Patient to Bed. This is generally said to be partly composed of the *Ravian* Method, and partly of the Apparatus major, though, in my Opinion, it is entirely the former.

Chefelden still made farther Improvements, particularly with respect to the internal Incision: After the external Incision, he first directs his Knife to the posterior Part of the Catheter, through the inferior and lateral Part of the Bladder, behind the Prostate Gland, and above the seminal Vesicles (*see Tab. L. Fig. 1. L.*); then he continues it forwards through the Sphincter of the Bladder, and the Left Side of the Prostate Gland, into the membranous Part of the Urethra, even to its Bulb, *K I F*, which preserves the Rectum better than the *Ravian* or Lateral Method. Besides, he affirms, that the Bulb of the Urethra hinders the Groove of the Catheter from being found, more in the other Method of Cutting than in this. Lastly, Among *Chefelden's* Emendations, *Douglas* enumerates these: 1. If he finds the Patient's Pulse low after the Operation, he applies Blisters to his Arms, which effectually raise his Spirits. 2. If the Wound grows callous, he lays on a Piece of Blister-plaster to erode it; by which new and sound Flesh pullulates, and the Wound unites. 3. If the Wound is putrid, he mixes a little Verdegrise with some digestive Ointment.

LeDran, after an accurate Examination of the various Methods of Lithotomy, prefers one to the other, according to the different Circumstances of the Case; though he seems to think the Apparatus major best on many Accounts, if performed with Judgment: Particularly if the Neck of the Bladder is gently dilated and divided as far as its Body, with the fore Finger and a Conductor; for here the Finger, with more Security, and less Pain, performs the Office of the Knife in the Lateral Method, though a precipitate Introduction of the Finger will lacerate the Parts, cause exquisite Torment, and sometimes separate the Neck of the Bladder from the Urethra; which necessarily induces an Inflammation, Gangrene, Convulsions, and perhaps Death: He therefore condemns those, who, out of an Affectation of Dexterity, perform with an uncommon Expedition.

He does not, however, disapprove of the High or the Lateral Operation; but only shews, that in the latter the Prostate and the Neck of the Bladder is divided by the Knife, which in the Apparatus major is done gently by the Finger; and, consequently, the Difference between them is of no Importance. He prefers the High Operation, where the Bladder is large, and can be sufficiently dilated, and this, he says, we may be sure of, when the Patient has not been afflicted with the Stone for any considerable time, and can retain a large Quantity of Urine: But he rejects it, when the Bladder is small, or callous, and cannot be sufficiently distended. He gives the Preference to the Method of *Rau* and *Chefelden*, when the Stone is very large; as they make their Incision in the Body of the Bladder, and dilate it discretionally: He objects, however, against *Rau's* Catheter, (which he has indeed represented much shorter, and very different from that delineated by *Albinus*) and says it is unfit for the Operation, as it will so easily, and so often, slip out; he therefore exhibits one, (*see Tab. LII. Fig. 17.*) in his Opinion, better adapted to the Purpose: This is fulcrated to *ee*, by means of which the Bladder may be divided near its Neck, and through this Aperture, by the Assistance of the grooved Conductor, may the Forceps be introduced, and the Stone extracted. He exhibits, likewise, a Knife sharper-pointed than the common ones, which he recommends in the Apparatus major, and the Method of *Rau* and *Chefelden*. See *Tab. LII. Fig. 16.*

He condemns the Apparatus minor, as unworthy of being ranked among the Methods of Lithotomy, and absolutely pernicious, unless for extracting the Stone out of the Urethra, or the Neck of the Bladder. But if we consider, 1. That the Wound is made through the Neck and Body of the Bladder, as in the Lateral Operation; and that these two Methods differ only in the Instruments; we shall find the Apparatus minor to be an advantageous Improvement upon the Ancients. 2. That it was the only Method practised for above sixteen Centuries, and is

still continued, though the Apparatus major is so well known. 3. Experience convinces us, that it is successfully performed, even at this Day, upon Children and Infants. 4. Nor is there any material Objection, except a possible Roughness of the Stone, against practising it on Boys under Fourteen, and Men of a low Stature. 5. It requires the fewest Instruments; for the Knife alone is frequently sufficient. I therefore recommend it for its Simplicity, and, with *Paulus Aegineta* and *Albucasis*, advise the Improvement of it, especially if the Incision is made in the same Parts as in the Lateral Operation. In Adults, and tall Men, it is attended with various Inconveniences: Wherefore *Celsus* judges it suitable only for Boys under Fourteen; tho' *Morand* says, it is sometimes successful in Adults.

Garengeot attributes the Honour of inventing and improving the Lateral Operation to his own Country; though it is absolutely certain, that many eminent Men of several Nations may justly claim a Share in the Improvement of this Method; and that *Rau* was really the first, after the *French* had rejected it, who reviv'd and practised it on living Subjects, which he continued with Improvements, as long as he lived. After him, myself, then *Denys*, and, at length, the *English*, embraced and improved it; otherwise it might have been buried in perpetual Oblivion. In about thirty Years, the *French* were induced to receive it; and *Morand*, with a Condescension not very common to his Countrymen, came to *London* to see it performed by *Chefelden*; and, upon his Return to *Paris*, practised it on several Patients, with Success. During his Absence, the *French* tried it on dead Subjects; and *Perchet*, as we are informed by *Garengeot*, having qualified himself sufficiently, attempted it in the following Manner, on living Subjects.

An Hour or two before the Operation, he orders a Clyster; then places the Patient opposite to the Light, on a Table about two Feet and an half high, which is first covered with Linen several times double; and, putting one Pillow under his Head, with another under his Buttocks, he binds him as in the Apparatus major. His Legs are then secured by two Assistants, whilst a third, and sometimes a fourth, confines his Shoulders close to the Table. Next, a dextrous Person is placed on the Left Side, after the manner of *Chefelden*, to hold up the Scrotum, and retain the grooved Catheter, (which *Rau* did himself) that the Operator may have both his Hands disengaged. After this, he introduces into the Bladder a very crooked Steel Catheter, dipt in Oil, with a deep Groove, long Beak, and large Handle: When he perceives it is entered, he gently moves the Handle with his Left Hand towards his Right Inguen, and searches between the Suture of the Perinæum, and the Tubercle of the Ischium, with the fore Finger of his Right Hand, for the Beak, taking care that it does not come to the Ischium: He then gives the Handle to an Assistant, who fixes his Right Thumb upon the anterior Part, and his Fingers upon the posterior, holding it very steady, while he elevates the Scrotum with his Left Hand, and inclines it towards the Right Side, which extends the Skin of the Perinæum. Then the Surgeon protrudes the Suture of the Perinæum obliquely towards the Right Thigh, with his Left fore Finger, and with his Right Hand makes the first Incision obliquely through the Integuments, beginning about a Finger's-breadth from the Suture of the Perinæum, and a Line above the most prominent Part of the Beak of the Catheter, descending obliquely to the Tubercle of the Ischium, after *Rau*; for *Jaques* made his Incision in the opposite Direction. This Operation may be performed at once on lean Subjects; but, if they are corpulent, two or three Incisions may be requisite, tho' that depends on the Dexterity of the Surgeon. After this, the Operator passes his Left fore Finger into the Wound to search for the Groove of the Catheter, (not to put aside the Intestinum Rectum, as *Chefelden* directs) that, if it happens to be moved, he may replace it in a proper Situation. He then makes an Incision, having first ordered his Assistants to secure the Patient, into the Urethra, directing his Knife into the Groove, by the Nail of his Left fore Finger, then into the Neck of the Bladder laterally; and, lastly, by elevating his Hand, so that the Back of the Point may lie in the Groove of the Catheter, and the Edge towards the Bladder, he divides its Body, about a Finger's-breadth or more; for in this the principal Advantage consists; but the fore Finger should always follow the Knife, to keep it in the Groove. When the Incision is made sufficiently large, that is, when he finds the Groove of the Catheter bare, about two Fingers-breadth, he withdraws the Knife, still leaving the Finger in it, and with his Right Hand passes the Beak of a Conductor over the Nail of the Left fore Finger into the Groove of the Catheter; he, next, draws out his Finger, and with that Hand grasps the Handle of the Catheter, which hitherto an Assistant held, and, inclining it somewhat towards himself, at the same time conveys the Conductor into the Bladder; which, if duly performed, is followed by an Efflux of Urine out of the Wound. When this is done, he moves the Catheter gently from Side to Side, and extracts it; then he takes the Handle of the Conductor in his Left Hand, and passes his Right fore Finger through its Cavity into the Bladder, dilates the Wound, and opens a Passage for the Forceps, which he introduces with his Right

Hand through the Conductor into the Bladder; then, with his Left, extracts the Conductor, and opens the Forceps to dilate the Wound, which he closes again to search for the Stone, and, having laid hold of it, extracts it. After this, he introduces his fore Finger once more into the Bladder, to search if any thing remains; and, if there is any Remainder, he introduces the Catheter over his Finger, or a Conductor with a Button at the End; he extracts it. Thus you have *Garengeot's* Directions for performing this Operation; though we must observe, that the Bladder alone cannot be divided by this Method, but that there must be a Separation of its Neck, and the Prostate Gland, laterally, and only of a small Part of its Body, as *Morand* observes: He, also, represents a small Knife for this Purpose, (see *Tab. LII. Fig. 18.*) from *Chefelden*; though *Albucasis*, long ago, recommended the Use of such a Knife.

SENFBIUS'S METHOD OF PERFORMING THE LATERAL OPERATION.

Senffius, a Surgeon of *Berlin*, who was as equally well skilled in all chirurgical Operations as in Lithotomy, preferred the Lateral Method, and performed it in the following manner. The Patient is placed upon a Table, of such an Height, that the Surgeon, when upon his Knees, may reach up to his Navel. Upon this he lays two Pillows, one under his Head, and another under his Buttocks; then fixes him upon the Edge opposite to the Light, bends his Legs to his Hips, and secures them by two Assistants, and a Cord (he omits the Ligature in Children); a third holds down his Shoulders, a fourth kneels over him, (as *Tab. L. Fig. 9.*) holding up his Genitals with his Right Hand, and with his two fore Fingers extending the Skin of the Perinæum, that the Incision may be more accurate, and the Catheter more perceptible in the Perinæum: He had, also, a fifth, to give and receive the Instruments. After these Preparations, he introduced into the Bladder a Silver grooved Catheter, more slender and incurvated than usual, (see *Tab. XLVIII. Fig. 15. a a a*) dipt in Oil; with this he searches for the Stone, till he convinces both himself, and the Spectators, that there is one. He then kneels down upon his Right Knee, like *Rau*; and, with his Left Hand, turns the Handle of the Catheter towards the Right Inguen, and its Beak towards the Tubercle of the Ischium, holding it himself; he next cuts through the Integuments, betwixt the Anus, and this Tubercle, with a Knife broader than common, and involved half Way in Linen. After this, he puts the Knife in his Mouth, and, with his Right fore Finger, searches in the Wound for the Catheter: When he has found it, he cuts into its Groove, as *Rau* did, and, retaining the Knife there, moves the Handle of the Catheter with his Left Hand towards himself; and, holding the Knife in his Right, follows the Beak of the Catheter as it moves inward; and thus dilates the Wound of the Bladder. He then gives the fourth Assistant the Catheter to hold in this Position, while he himself, with his Left Hand, introduces a male Conductor, near the Knife, into the Bladder; then extracts the Knife, and passes a female Conductor (made of Silver as well as the other) over that; and, withdrawing the Catheter, he, after *Rau's* Method, conveys a Forceps between the Conductors, with which, after the Extraction of the Conductors, he searches for the Stone, and extracts it so dextrously, that the Whole is completed in two or three Minutes. His Reason for using this slender Catheter, was because it passed more easily into the Bladder; and he made it of Silver for Neatness. An Instrument so much inflected must thrust the Urethra, and Neck of the Bladder, more towards the Perinæum; which induces me to think, that he divided not only the Bladder, but its Neck too.

MORAND'S SENTIMENTS OF LITHOTOMY.

Morand reasons very justly on the several Methods of Lithotomy, and concludes, that the Multiplicity of them is so far from being an Incumbrance, that it is a real Advantage, as different Circumstances will require a different Practice; assuring us, that he had examined and performed each of them. In his Treatise on the High Operation, he promises another on the Lateral; but, as he had heard of *Chefelden's* extraordinary Success, he came to *London*, that he might be an Eye-witness of his Practice, and converse with him on the Subject. He informs us, likewise, that *Chefelden's* sole View in relinquishing the High Operation was to endeavour at an Improvement upon *Rau*, and, if possible, to render his Method preferable to the other. He then enumerates many Experiments, which *Chefelden* had made, partly after *Rau's* Method, as described by *Albinus*, and partly by a previous Distention of the Bladder with Water; but lays, that the Urine always insinuated itself into the cellular Substance, which invests the Rectum; and caused foul, putrid Ulcers, of which several dy'd. He, also, forbids the Assistant, who holds the Catheter, to protrude it forward, as this may easily divide the whole Sphincter; nor should the Wound in the Membrana Adiposa, near the Rectum, be too deep (perhaps, lest the Urine should lodge and putrefy there). He further tells us, that an ulcerated Bladder may be better cleansed this way, than any other; and lastly, which he esteems the greatest Recommendation, that, by dilating the Wound

Wound after his Method, *Chefelden* extracted a large Stone, which another Surgeon could not by *Marianus's*. This Method, he says, was attended with such Success at *Paris*, in the Year 1730. that out of sixteen Patients, eight of whom *Perchet* cut, and the rest himself, one only miscarry'd, when, out of twelve, who were cut at the same time by the Apparatus major, five dy'd. He esteems it more easy and effectual, than *Marianus's*, as the fore Finger is the best Conductor; and that the Operation is more short, and less painful, as large Stones may be more easily extracted. Lastly, he pronounces *Rau's* Method too intricate and difficult; and therefore doubts with *Douglas*, *Garengeot*, and *Falconet*, whether he did really perform it in the manner which *Albinus* has described.

As I have been a long time desirous, that the History of this Method, and particularly of *Faques*, as the first-known Author of it, might be fairly stated, I must beg Leave to make some Observations on *Morand's* Account of him. *Morand*, contrary to the received Opinion, endeavours to prove, that, after the Emendations made by *Mery*, *Fagon*, and *Felix*, *Faques* always cut his Patients successfully in *Chefelden's* Method. And this, says he, is manifest from the sixty he cut at *Aix la Chapelle*, in the Year 1699. the greatest Part of whom recovered; the thirty at *Versailles*, in 1701. who were all cured; and the twenty-three at *Paris*, in 1703. amongst whom the Marshal de *Lorge* only miscarried. But, for my own Part, I must confess, I have several Scruples about all these Accounts; and more particularly the first, as it is supported by no Testimonies; so far from it, that we are assured by *Mery*, *Faques* was sent for to *Aix la Chapelle*, to cut a certain Patient, that is, one. Besides, it is notorious to all, who are in the least acquainted with *Germany*, that the Stone in the Bladder is a very uncommon Distemper; and, consequently, that one City could never afford him so many Subjects. As for his Performances in *France*, they stand upon the same Foot of Probability with me; since *Saviard* and *Dionis*, his Contemporaries, rather mention him as a rash, imprudent Operator; the latter of whom could not certainly have the Confidence to publish a false Assertion in a Book approved by the Censors, and dedicated to the King, while *Faques's* Exploits were in the Mouth of every body, and *Fagon*, the very Person he appealed to, still alive. He cites, also, a Manuscript of one *Hanold*, dedicated to *Fagon*, in which the Author defends *Faques* against *Mery*; but, since *Fagon* was so great an Encourager of medicinal Knowledge, and, being afflicted with the Stone, applied to *Mareschal* for Relief, rather than *Faques*, I must call the Truth of this in question. On the contrary, I am convinced by *Launeau's* Dissertation, that he looked upon *Faques* as an imprudent, rash Operator, and commended *Fagon* for opposing him, and putting an End to his Impostures; which is agreeable to what *Mery*, *Saviard*, *Dionis*, *Colet*, and common Fame, have all declared. He, further, says, it is a Misfortune, that this Method has been examined only by *Mery*: Which is another Mistake; for *Bassiere*, *Lifter*, *Saviard*, *Launeau*, and *Dionis*, who were all, at that time, resident at *Paris*, and Eye-witnesses of his Performances, have, also, considered it. It is, therefore, plain, that all the Writers of that Time unanimously agree in condemning this Method.

As to his Success in *Amsterdam* in 1703. which *Morand* extols so greatly, and says he was rewarded by the Magistrates with a Golden Medal, inscribed, PRO CIVIS SERVATIS; during my whole Residence in that City, in 1706. I could never get the least Information either of his Success, or the Present. I could, therefore, have wished, that *Morand* had informed us where he picked up this Intelligence. On the contrary, in *Albinus's* funeral Oration on *Rau*, we are assured, that he had no better Success than at *Paris*, in the Year 1698. and still continued in his Errors. By a private Letter, which I received from a Dutch Physician in 1737. I find his Reputation was but short-lived, and that he was really presented with a Medal relating to his Profession, with this Inscription, OB CIVIS SERVATOS. From thence he went to *Leyden*, where he reigned, too, for a short time; but *Rau* soon drove him thence. However, the Populace still adored him, partly for his Ecclesiastical Habit, and partly for his Generosity, in performing Cures gratis, as a Person sent from Heaven; so that the Magistrates, to prevent any Tumult, which *Rau's* Representations might cause, made him this Present.

Verduin, in a Letter to me, says, that *Faques Beaulieu* was born of mean Parents, and never learned Surgery, but was Servant to an itinerant Mountebank, who used to cut for the Stone, and for Ruptures, whom he attended in several Campaigns; which gave him an Opportunity (as he himself confessed to *Verduin*) of frequent Experiments upon dead Subjects. After his Success in *France*, and at *Aix la Chapelle*, he was invited, by a Person of Distinction, to *Zutphen*, in order to cure him of a Sarcocoele. He, from thence, went to *Amsterdam*, where, upon Examination, *Guerelle*, and several other judicious Men, found his Catheter to be without a Groove. Afterwards he performed his Operation on a Boy, with so much Dexterity, that *Bernardus*, and the principal Physicians of the City and Hospital, recommended him to the Senate, at whose Expence he was supported.

About this time he procured some grooved Catheters; and, travelling through the Southern Parts of *Holland*, performed several Operations for the Stone, and for Ruptures. After his Return to *Amsterdam*, his Stay was very short; and *Verduin* attended him in his Journey from thence to *Paris*, as far as *Bois-leduc*, where he continued three Weeks, and cut several for the Stone. At this Place, says *Verduin*, the Senate of *Amsterdam* presented him with a Golden Extractor, engraved on the Back with the Arms of the City, and a Crown adorned with Oak-leaves, over which were these Words, OB CIVIS SERVATOS.

At *Verduin's* Return, he found *Faques's* first Patient, who had procured him so great Reputation, not perfectly cured; several were dead; some had a Fistula in the Perinæum, others an Incontinence of Urine, and some other bad Symptoms. From one Patient he extracted three Stones, but left two behind. In others, the Fæces were discharged through the Wound and Perinæum. But, what was still worse, upon searching, he found a Stone in a Person of Distinction, at the *Hague*; and, after Ten the same Night, proceeded to his Operation, but then could find none; though, upon opening this Nobleman, some few Days after, there proved to be ten large Stones in his Bladder. Thus far *Verduin*.

Saltzmanus informed me, that at *Strasburgh* *Faques* used a Knife like a common Table-knife, and a very crooked groov'd Catheter, with a cannulated Conductor, different from the common one, only in having a Button at the End, instead of a Beak; and a Ring, instead of a cruciform Handle. When he had passed his Right fore Finger into the Bladder, he conveyed this Instrument over it; then withdrew his Catheter, and introduced the Forceps by it. When he had examined the Situation, Figure, and Size of the Stone, he chose a Forceps suitable to the Patient, flatter than the common Instrument, with a large Ridge internally near the Edge, and without Teeth, that they might not intercept or hurt the Bladder. Dr. *Trew* sent me the Figure of the Conductor and Forceps.

Another Error of *Morand's*, who says, that *Faques* retired to his native Place *Besancon* in the Year 1712. and died there in 1714. is confuted by *Saltzmanus*, who saw him perform his Operation at *Strasburg* in 1715. which is confirmed by *Le Maire*, who says, that he lived a long time after this at *Besancon*, even till he was seventy Years of Age.

Authors differ very much about the Time of *Faques's* being in *Holland*; but I am assured by an eminent Dutch Physician, and *Verduin*, that he came first into *Holland* in the Year 1699. Since we are so ignorant of the Life of this great Man, who gave Birth to so remarkable an Operation, it is to be wished, that the French, who must be furnished with the best Materials for it, as he was a Native of that Country, resided most Part of his Days, and ended them there, would oblige the World with a more particular Account.

INCONVENIENCES OF THE LATERAL METHOD.

Though the Lateral Operation has acquired so great a Name, it is not without its Inconveniences and Difficulties, any more than the Apparatus major: For, first, it is subject to produce a Fistula in the Perinæum. Secondly, The transverse Situation of an oblong large Stone, which cannot be known before the Operation, exposes the Patient to violent Pains, and the Danger of Death without extracting it, which may be effectually done by the High Operation. Thirdly, The Situation of the Stone above the Os Pubis, being fixed there in the Form of an Hook, may render the Extraction both difficult and dangerous; a fatal Example of which *Sermes* gives in his Translation of *Douglas's* Lithotomy. Fourthly, When the Stone is lodged in some Fold of the Bladder, or is very small, or broke to Pieces, the Apparatus major is preferable: *Rau* often met with this Difficulty in that Operation, according to *Sermes*. Fifthly, This Method cannot be performed, unless the Catheter can be passed into the Bladder. Sixthly, The Bladder is liable to be perforated, pinched, and lacerated, by the Instruments. Seventhly, This Operation can scarcely be performed on Women, especially Adults, without perforating the Vagina; and we are furnished but with one Instance to the contrary, which *Rau* mentions.

Upon the Whole, then, Lithotomy appears to be a dangerous and precarious Operation; nor can we depend upon one Method alone, but the Surgeon must be determined in his Choice by the particular Circumstances of the Case.

The Apparatus minor is improper, when the Stone is rough and ragged, or too large to be held by the Fingers, or the Patient is tall, because in such an one the Distance of the Bladder from the Anus prevents the Stone from being felt and protruded to the Perinæum. I, in this Case, prefer the Lateral Method, or the High Operation. But in Boys, and Adults of a small Stature, when the Stone is small and smooth, and can be forced to the Neck of the Bladder, and particularly when it is lodged in the Neck of the Bladder, the Apparatus minor is eligible. In old weak Persons, or where the Bladder is ulcerated, the High Operation is dangerous; but in Children, and young Men, it may be performed

formed with great Safety, though the Stone is large; or when it is too small to be found by other Methods, or brittle, or where there are several, they may all be extracted this way: But great Care is required not to wound the Fundus of the Bladder. Though the Incision in the Apparatus major is less dangerous than that in the High or Lateral Operation, because in that the Urethra only is wounded; yet I would not recommend it when the Stone is large, ragged, or unequal, because it may probably be attended with a violent Extension, Laceration, or Contusion of the Neck of the Bladder; but, in an ulcerated Bladder, where the Stone is small and smooth, this Operation is proper, as the Bladder may be better cleansed downwards. The Lateral Method, as it is now improved, excels the Apparatus major, because it is performed more readily, and larger Stones may be extracted by it; but the Wound is certainly more dangerous and difficult, since it is deeper than in the other, where the Urethra only is divided in the Perinæum; whereas in this the Incision must be made through the Parts which invest the Bladder, and, of consequence, in fat Subjects particularly, the Rectum, with the seminal Vessels, may be injured by the Knife slipping out of the Catheter, or the Bladder itself may be perforated on both Sides, as it often happened in *Faguet's* Operations.

The Apparatus major is hazardous and difficult, because a Stone of a moderate Size, especially if somewhat rough, cannot be extracted by it, without a violent Extension, or total Laceration of the Bladder, which is usually followed by a profuse Hæmorrhage, Inflammation, Gangrene, Cancer of the Bladder, and Danger of Death; or, at least, Incontinence of Urine, in a Fistula in the Perinæum, and many other bad Symptoms. From what has been said, it appears, that each Method is proper in its Turn; and, therefore, the Surgeon ought to be acquainted with them all, and chuse that which is adapted to the particular Circumstances of his present Patient. In *Marianus's* Method, the Urethra only is divided; in all the rest, the Incision is made in the Bladder, and even in its Body: In the High Operation, the inferior and anterior Part of it is divided; in the Apparatus minor, and Lateral Operation, the inferior and lateral Part; so that the Difference between these three, consists more in the Instruments, than the Place of Incision into the Bladder.

Lastly, Patients, who have been happily cured of the Stone, are liable to a Return, which should not be rashly imputed to the Ignorance of the Operator. For, if the original Cause continues, as a vitiated Bladder or Kidneys, it must necessarily produce the same Effect: Nor is it in the Power of the ablest Physician to ensure a Person from a Relapse.

THE METHOD OF EXTRACTING THE STONE OUT OF THE BLADDER OF WOMEN.

Women are less subject to the Stone in the Bladder, than Men: For they are more regular in their Diet, and their urinary Passages are more short and lax; so that, in general, the Stone, being but small, discharges itself with the Urine, and, when it does happen to lodge and increase in the Bladder, we have many Instances of its coming away spontaneously, without the Danger of an Operation. For this Reason, it is generally observed, that fifty Men are cut, to one Woman; and *Molineau* says, an hundred. *Helfer*.

I was once Witness of a remarkable Case, where a large Stone was expelled spontaneously. A Gentlewoman, about five Months gone with Child, sent for me to consult me about a Complaint, which I judg'd to be the Stone, and advis'd her to take only some softening mucilaginous Medicines, till such time as she should be deliver'd. I heard no more of her, till she was in Labour; when I was call'd again, and found a Man-midwife with her, who told me, the Stone was so unluckily situated, that it was impossible to deliver her, every Pain bringing the Stone into the Passage; and was of Opinion, that the Stone should be taken away immediately, before she could be delivered. This, however, I oppos'd, and the Patient was delivered by proper Management. Upon searching her, about two Months afterwards, I found the Stone situated partly in the Urethra; so that, by drawing the Ridges of the urinary Passage aside, I could see it. Upon this, she consented to have the Stone taken away, and a Day was appointed for the Operation; but the Morning it was to be performed, her Courage failed, and she determin'd not to undergo it. About six Weeks after, I was call'd again, and found she had parted with the Stone spontaneously, without much Pain; and afterwards she was, for some few Months, troubled with an Incontinence of Urine, which gradually went off, and she recovered perfectly.

These natural Advantages do not always exempt Females from the Necessity of Extraction: For the Stone is sometimes retained in the Bladder by the Narrowness of its Neck, and increases to such a Size, that all lithontriptic Medicines prove ineffectual.

Women labouring under the Stone are generally more happy than Men afflicted with the same Misfortune, because they are often relieved without the Use of the Knife, or any dangerous Incision, only by the Dilatation of the Urethra, and Neck of the Bladder. And this Attempt is the rather to be made; because we know from Experience, that the Neck of the Bladder in Wo-

men may, without any subsequent Damage, be almost incredibly distended. This is sufficiently proved not only by the Instances of large Stones spontaneously discharged by Women; but, also, by the Testimonies of many celebrated Physicians, Surgeons, and Lithotomists; such as *Hildanus*, *Toler*, *Greenfield*, *Alghisi*, and some others. Of this we have a memorable Instance, in *Miscell. Nat. Curios. Obs. Decid. 2. An. 10.* where we are told, that a certain Woman was happily freed from a Stone situated in the Neck of the Bladder, and weighing five Ounces and an half, only by the Dilatation of the Urethra. In the *Philosophical Transactions*, N^o 202. 236. and elsewhere, we have remarkable Instances, where the just-now specify'd Method has succeeded happily in many Women, both young and old, tho' the Attempts have been generally more successful in the former, than in the latter.

For this Reason, a far smaller Apparatus of Instruments is requisite for the Cure of the Stone in Women, than in Men: There are, however, various and even more Methods invented of extracting the Stone from Women, than those we have described for freeing Men from the same Misfortune. But, for the sake of Distinctness, the general Method of extracting the Stone from Women, as well as from Men, may be divided into those performed by the smaller, the greater, the high, and the lateral Apparatus. Each of these may again be performed in different Manners. We shall now treat of the first of these, which is to be performed in different Manners, according to the Variety of Circumstances and Symptoms. But, since there are various Ways of performing this Operation, we ought carefully to deliberate which of them is most safe and commodious. The most ancient is that described by *Celsus*, and generally known by the Name of the lesser Apparatus.

Celsus says, when the Stone is small, the Knife is unnecessary, because the Urine generally forces it into the Neck of the Bladder; and, if it lodges there, it may be safely extracted with an Hook. When it is large, the Surgeon should introduce his Fingers into the Anus of a Virgin, or the Vagina of a Woman, and make his Incision at the Bottom of the Left Side of the Perinæum, and extract the Stone, as in Males. *Albutasis* advises to pass two Fingers into the Anus or Vagina, to search for the Stone, and then protrude it gradually towards the Perinæum, and, as much as possible, downwards, towards the Left Side of the Anus, or Tubercle of the Ischium, till it is perceptible to the Touch; then an Incision may be made down to the Stone, without wounding the Bladder, till the Stone becomes visible, when it should be expelled by the Fingers in the Anus, or extracted, as in Men. *Meekren* too, when the Stone sticks in the Urethra, orders it, by introducing two Fingers into the Vagina, to be protruded forward, and extracted with an Hook. These have been the common Methods, except that some first dilate the Urethra with proper Instruments; others, when it is requisite, divide it; and then extract the Stone with an Hook or Forceps, if the Fingers will not accomplish it. But this Operation should be referred rather to the Apparatus major. *Jo. Douglas* has proposed a new Way, by dilating the Urethra gradually with Tents made of Gentian-root, or prepared Sponge, till a free Passage is opened for the Admission of the Forceps, and Extraction of the Stone. We may be assured there is a Stone, as well by the common Symptoms attending that Disorder, as by passing the Catheter and Fingers. The Woman is to be placed in the same Posture, as a Male Patient, the Labia Pudendi, and Nymphæ, are to be held asunder by the Assistant, who should hold up the Scrotum in a Man, that the whole urinary Passage below the Clitoris may be visible to the Operator (see *Tab. L. Fig. 2. D*); then he may proceed in the Method he judges most proper. When the Stone is extracted, he must search for more, and the Remainder must be extracted in the same manner. It is seldom necessary to tie the Patient; and the Operation may be in the same manner performed, while the Patient lies cross a Bed.

The Apparatus major requires more Instruments; and in this, as well as the former, the Methods are various, tho' the general Practice among the Moderns is, to place the Woman on a Table, securing her by proper Assistants, one of whom is to hold open the Labia Pudendi, and Nymphæ, while the Surgeon introduces a male Conductor, (see *Tab. XLIX. Fig. 2.*) and then a female (*Fig. 3.*) through the short Urethra into the Bladder: These he opens gradually to dilate the Urethra with the Neck of the Bladder (*Tab. L. Fig. 2. B C*); and between them he conveys a Forceps, (see *Tab. XLIX. Fig. 5.*) with which he gently enlarges the Dilatation, till the Passage is sufficiently opened for the Extraction of the Stone. No Difficulties occur, when the Stone is smooth, small, or of a moderate Size; but, when it is large, the Task is not quite so easy, tho' he must then dilate the Urethra gradually, till the Stone follows. When the Stone cannot be laid hold of with the Forceps, two Fingers should be pass'd into the Vagina of a Woman, and one into the Anus of a Girl, to press it into the Instrument. When it is too large to be extracted this Way, the Surgeon must endeavour to break it with a strong Forceps with large Teeth, (see *Tab. XLIX. Fig. 7.*) that he may extract it in Pieces: If it cannot be broke, or he is willing to extract it whole, he must divide the Urethra, on one or both

Sides; and, in my Opinion, he need not scruple to make an Incision thro' the whole Neck of the Bladder into part of its Body, since this is done in Men without the least Danger. And *Paré* seems to approve of this Practice, as he has recommended and delineated a grooved Catheter for dividing the Urethra of Women, when there is Occasion; which *Colot*, likewise, commends, and we have represented (*Tab. LII. Fig. 7.*). Some pass the Forceps thro' a narrow cannulated Conductor. As too great an Extension of the Neck of the Bladder may produce an Incontinence of Urine, it is proper to apply a strengthening Fomentation for a few Days. But old Women are more subject to this, than young. When the Parts are wounded, vulnerary Medicines will be serviceable.

Marianus advises to leave the Expulsion of small Stones to Nature, as the Urethra in Women is short and lax: A large one, he thinks, should be extracted, as in Men. But the proper Place for the Incision, he says, is between the Os Femoris, and Urethra. When, therefore, he has introduced a grooved Catheter into the Bladder, an Assistant draws the Labrum Pudendi on that Side, where the Wound is to be made, till the Operator has a distinct View of the Part: He then makes an Incision about a Finger's-breadth from the Os Femoris, and proceeds as in Men: Nor should the Surgeon be terrify'd at a profuse Hæmorrhage. Tho' *Marianus* has not distinctly pointed out the Part, I am inclined to think, he made his Incision in the same Place with *Frere Jaques*, and *Rau*. Some pass a Dilator between the Conductors, to distend the Neck of the Bladder; and then extract the Stone with a Forceps. For my own Part, I never use that formidable Instrument, but introduce my fore Finger, instead of it. Others recommend a Division of the Urethra, and even of the Body of the Bladder, as less dangerous than a violent Dilatation: Others oppose this; and, in favour of their Opinion, allege the many Instances of large Stones discharged spontaneously, by the Assistance of Nature alone, or by the Help of Distention: Which Opinion is countenanced by *Molineau*, and confirmed by Cases, which he enumerates; but we must observe, that all those Stones were small, the largest scarce bigger than a Pigeon's Egg: These, indeed, and larger, may be extracted without the Knife; but certainly all cannot. We may therefore conclude, that the Method of extracting the Stone from Women should be varied according to its different Size. Some introduce a grooved Catheter before the male Conductor (see *Tab. LIII. Fig. 7.*); and then pass that, with the other Instruments, through its Groove.

Frere Jaques usually cut Women in the same Manner as Men: But he has been followed only by *Rau*; for the Generality of Lithotomists have preferred the preceding Method, though, in my Opinion, when the Stone is too large to be extracted through the Urethra, without injuring the Neck of the Bladder, and the Bladder itself, this will be serviceable to the Patient; nor is there any Danger of weakening the Neck of the Bladder, but very particular Care is required to avoid the rash Practice of *Frere Jaques*, who wounded the Vagina, or Rectum; which Accident Women, who have born Children, are very subject to. *Falconet* says this Method of Lithotomy in Women requires more Caution than any other, and therefore recommends the High Operation, when the Stone is large; or advises to cut the Vagina, Bladder, and its Neck upon the Catheter, which *Buffiers* would have done upon the Stone itself, brought to the Neck of the Bladder. *Mery*, in order to avoid a Laceration, and Incontinence of Urine, proposes to pass a grooved Catheter into the Bladder, and cut thro' its Neck, with Part of the Vagina, as in Males; which is less hazardous than a violent Distention or Laceration: For, even in the Time of *Celsus*, it was a received Axiom, that Incisions are less dangerous, and more easily cured, than Contusions or Lacerations. And, therefore, it is no Wonder, that *Hildanus*, by cutting almost in the same Method, through the Bladder, and Part of the Vagina, and dilating the Wound partly with his Finger, and partly with a Knife, to the Neck of the Bladder, should extract a Stone as big as a Hen's Egg. He likewise produces a Case, where several Stones escaped through an Ulcer of the Parts, which was afterwards healed, and, consequently, such Wounds are not incurable.

Douglas proposes to extract a small Stone, by dilating the Urethra with a Tent of Gentian-root, or prepared Sponge. But, when the Stone is large, he approves of the High Operation, distending the Bladder with warm Water, and compressing the Urethra by an Assistant's Finger in the Vagina, and then making an Incision into the Bladder, immediately above the Os Pubis. This is a very proper Method, when the Stone is very large, and the Patient young and healthy, as there is no Danger of wounding or weakening the Sphincter of the Bladder, so as to cause an Incontinence of Urine; but, with *Morand*, when the Stone is small, I must prefer the Apparatus major, or minor.

It is to be observed, that Stones are sometimes formed in the Bladders of Women, by an Incrustation on large Needles, Hair-bodkins, or some such Bodies slipping into it: For, when there are foreign Bodies in the Bladder, the earthly Parts of the Urine will adhere to their Surface, and in time form a very large Stone. And we are furnished with numberless Instances of this

Kind, but the most surprising of all is that in the *Philosophical Transactions*, N^o 260: of a Girl about twenty Years old, from whom *Proby* extracted a Stone by the High Operation, without a previous Distention of the Bladder; the Basis of which Stone was a Hair-pin, about six Finger's-breadth long, and of a proportionable Thickness. *Heister's Surgery*.

LITHOTOMUS. A Lithotomist, or Surgeon who cuts for the Stone.

LITIM. A Thread several times doubled. *Rulandus*.

LITOS, λίτς, simple, not very compound. Some Preparations are thus called, as the *Diamoron*, and *Diacodium*, by *Galen*.

LITRA, λίτρα. The same as **LIBRA**.

LITRON, λίτρον, in the Attic Dialect, is the same as *λίτρον*, Nitre.

LITTERISTUM. An obscure Word in *Paracelsus*, which seems to import a kind of magical Cure, or Charm, for a particular Fever.

LITUS. A Liniment.

LIVIDUS Musculus. The *PECTINÆUS*; which see.

LIXIVIUM. A Lye, that is, Water impregnated with the Salts of burnt Vegetables.

LIXIVUM. An Epithet for Oil, which flows spontaneously without Pressure; or for Must, which runs in the same Manner.

LOBELIA.

The Characters are;

It hath a tubulous anomalous Flower, consisting of one Leaf, which is divided into many Parts, each being shaped somewhat like a Tongue, and are spread open like an Hand; this is inclosed in the Cup, which, afterwards, becomes a soft oval Fruit, which is full of Juice, and surrounds a Nut of the same Shape, which has a hard Shell.

Miller mentions but one Sort of this Plant; which is,

Lobelia frutescens, portulacæ folio. *Plum. Nov. Gen.*

This Plant was named by Father *Plumier*, who discovered it in *America*, in Honour to *Lobel*, a learned Botanist.

LOBELLUS, or **LOBULUS**. A small Lobe. Thus the Cells of Fat are called *Lobuli Adiposi*; and the Extremities of the *Bronchia*, which end in little Knobs, are call'd *Lobuli Pulmonum*. *Winslow* calls the small Lobe of the Ear, *Lobulus*.

LOBUS, λοβός, in Botany, signifies a Pod; and sometimes the Ungues, or white Part of the Leaves of Roses.

In Anatomy, the Divisions of the Liver, and Lungs, are call'd Lobes; and the Tip of the Ear is named its Lobe.

LOBUS ECHINATUS.

The Characters are;

The Leaves are equally pinnated; the Flower consists of one Leaf, which is cut into many deep Segments, and is almost of an anomalous Figure: From the Cup arises the Pistillum, which becomes a rough, prickly Pod, in which are contained one or two hard roundish Seeds.

Miller mentions two Species of this Plant; which are,

1. *Lobus Echinatus*; fructu flavo, foliis rotundioribus. *H. L.* The yellow Nicker-tree.

2. *Lobus Echinatus*; fructu castio, foliis longioribus. See **BONDUCH**.

These two Plants are very common in *Jamaica*, *Barbadoes*, and all the *Caribbee Islands*, where they climb upon the Shrubs and Trees which grow near them. The Leaves, Branches, Stems, and every Part of them, are greatly beset with Prickles; which renders it very troublesome to pass between them, where they grow pretty close.

LOCALIA Medicamenta are Medicines destin'd to operate upon particular Parts; or, more frequently, external Applications. *Localis Membrana* is the *Pia Mater*.

LOCH. The same as **LINCTUS**.

LOCHIA, λοχία, or λοχεία. The Purgations of the Uterus after Childbirth. These consist, generally for the two first Days, of a kind of bloody Serosity, and gradually become more white, and less in Quantity; which, during the whole Time, cannot be determin'd, some Women having more, others less: Nor can the Duration of this Flux be limited to any particular Time; for, in some, it continues fifteen or twenty Days only; in others, forty.

In general, however, the *Lochia* may be esteemed to flow regularly, when the Colour gradually changes from redish to white; when the Flux is equal as to its Consistence, and at last becomes somewhat viscid; when it has no ill Smell; and when it gradually decreases in Quantity.

The *Lochia* sometimes flow in too large Quantities, either on account of something retain'd in the Uterus, which prevents it from contracting duly; or a too great Fluidity or Agitation of the Blood. In this Case, the Patient is frequently seized with fainting Fits, and Convulsions; and an extraordinary Paleness, Weakness, and Swelling of the Legs, shew that the *Lochia* are redundant. If, therefore, it proceeds from a Retention of something in the Uterus, this must, if possible, be brought away by the Hand. But, if it proceeds from a too great Fluidity or Agitation of the Blood, tempering Decoctions of Barley, Jellies, Emulsions, Opiates, and Astringents, are to be administer'd.

But

But a Deficiency in the *Lochia*, or their utter Suppression, occurs more frequently, being generally brought on by taking Cold, a Stricture of the uterine Vessels from any Cause whatever, a Diarrhoea, Depression of the Mind, Hysterics, or an imprudent Use of Opiates or Astringents.

The Consequences of such a Suppression are, a Phrenitis, Pleurisy, Peripneumony, Paraphrenitis; an Inflammation of the Breasts, Liver, Stomach, Omentum, Mesentery, Spleen, Kidneys, and Intestines; a Dysentery, Colic, Iliac Passion, Apoplexy, or Palsy; Difficulty of Breathing, Palpitation of the Heart, Faintings, and Convulsions; which are not easily cur'd, unless the Flux of the *Lochia* can be restor'd; but cease spontaneously, if this returns. The Physician, therefore, must always have a View to the *Lochia*, and, by all possible means, endeavour to procure this salutary Discharge. For this Purpose, mild Antiacids are to be exhibited, in order to correct the Tendency of the Serum to Acidity, such as the *Tesacea* mentioned under the Article ACIDA; and mild Diluters are to be given, as Decoctions of Barley, Oats, and Almonds, and small Broths: To these may be added mild Aperients, which are esteemed specifically to promote the *Lochia*, and consist of moderately cardiac and uterine Ingredients. But great Stress is to be laid on aperient and relaxing Topics, Clysters, Fomentations, Plaisters, Liniments, Cupping-glasses applied to the inferior Parts, Pessaries, and Suppositories, which much contribute to relax the uterine Vessels, and invite a Return of the *Lochia*.

Boerhaave advises not to bleed in the above-mentioned Disorders, proceeding from a Suppression of the *Lochia*, without the utmost Necessity; and cautions against treating the Symptoms, as original Distempers proceeding from other Causes.

La Motte says, that, upon a Suppression of the *Lochia*, there is generally a Fever, and the Belly becomes hard, distended, swell'd and painful; and to these are join'd Anxieties, and hysterical Symptoms.

The Method of Cure, recommended by the same Author, is to give an emollient Clyster without Cathartics; to bleed in the Arm, not in the Foot, for fear of loading the Uterus, and Parts adjacent, more, and to repeat Bleeding occasionally.

He recommends a Cataplasm, which is to be renew'd as it grows cold, made in the following Manner:

Take of the Leaves of Mallows, Marshmallows, Violets, and Groundsel, of the Flowers of Chamomile and Melilot, of Linseed and Fenugreek-seed, and of Wheaten-flour, of each one Handful: Boil them in Water.

He, also, advises a Clyster, or rather a half Clyster, of this Decoction, four times a Day.

He, farther, advises gentle Purges towards the last.

In case of a violent Looseness attending, which sometimes happens, the same Author directs Bleeding, repeated according to the Exigencies; a Decoction made with the Roots of Couch-grass, and wild Succory, with an Ounce of the Shavings of Hartshorn and Ivory, with a little Cinnamon; and two half Clysters a Day, made of a Sheep's-head Broth, boil'd with the Wool on; and with a Handful of Mullein, Flowers of Chamomile and Melilot, and as much Wheat-flour.

He says this Method always succeeded very well.

In this Case, the Diet he directs is Broths of Beef, or Fowl, with a little of the Shavings of Hartshorn and Ivory boiled in it.

Neither the Quantity of the *Lochia*, nor the Time of their Duration, can be determin'd, being both different, according to the Differences of Age and Constitution in the Women. *La Motte* knew two Women, in whom they ceased the very Day after their Delivery, without being followed with any Swelling of the Belly, or Pain, or any other Accident. The same Author knew two, who were left as dry the fifth Day after their Delivery, as before it; but, as there was neither Fever, Tension of the Belly, nor Pain, he told them they had no ill Consequences to fear from it.

In others the *Lochia* continued five, six, or seven Weeks, and always red.

But, whether their Duration is short or long, 'tis of no Consequence, provided it is the Work of Nature, and no Accidents ensue.

A Suppression of the *Lochia* is often caused by excessive Anger, Joy, Fear, or other Passions; and sometimes by a single Word, spoke by somebody in the Room inadvertently, and of no Importance; by the Smell of a Flower, a very little Cold, a slight Fear, or a sudden Noise: The Consequence of such a Suppression is a Fever, great Tension and Pain in the Belly, Delirium, and often Death; insomuch that the Woman is very happy, if she comes off for a very large Abscess in some Part or other.

La Motte, *Obs.* 409 gives the History of a Lady's Case, who, upon taking Cold, about eight Days after Delivery, was seized with a Shivering, which was succeeded by a Fever, and an entire Suppression of the *Lochia*, with a Pain in the Left Groin; where, two Days after, there appeared a Tumor, with Redness, Heat, Tension, and Pulsation

He first endeavoured to divert the Fluxion, and diminish the Fever, by Bleeding in the Arm, Clysters, and a proper Regimen; and then tried to ease the Pain by anodyne Cataplasms of the Crums of white Bread, fresh Milk, the Yolk of an Egg, Saffron, and Oil of Chamomile; which were succeeded by emollient and maturative ones, as the Pulp of Mallows, Marshmallows, Linseed, Rye-meal, Flowers of Chamomile and Melilot, Ointment of Marshmallows; and Oil of Lilies and Chamomile; but, as the Symptoms increased, insomuch that nothing was to be expected but Suppuration, he changed these Cataplasms for others, as old Leaven, Onions roasted under the Ashes, Pigeons-dung, Ointment of Marshmallows, and the Suppurative, by which last I suppose he means the Basilicon: By the Use of these Remedies good Pus was form'd in the Tumor in eight Days; which, being let out by Incision, the Wound was incarn'd and cicatriz'd in a Fortnight after.

La Motte utterly disapproves Bleeding in the Foot in these Cases; and gives a very good Reason for his Opinion, that it must necessarily increase the Flux of Humours, already too large, upon the Uterus, and the adjacent Parts.

The same Author, *Obs.* 412. gives another History of a Lady, who had a great Discharge of the *Lochia* for the three first Days; which, afterwards, diminished by little and little, till the fifth Day, when they entirely ceased, without any manifest Cause: He found her on the sixth Day in a violent Fever, with her Belly hard, distended, and so painful, that she could not bear her Shift upon it, attended with a violent Looseness. He began the Cure by giving her a Clyster of Whey, without any Addition; and, two Hours after, let her Blood at the Arm; then he applied soft Napkins to her Belly, dipt in the following Decoction, as hot as she could bear it, which were constantly chang'd for others, as they grew cold. The Decoction was made with the Leaves of Mallows, Marshmallows, Violets, Groundsel, Flowers of Chamomile, and Linseed: Strain it, and then add one third Part of new Milk.

Of this Decoction, also, he gave her Clysters in half the usual Quantity, that she might retain them the longer. Twelve Hours after he took away some more Blood, and still continued these Fomentations and Clysters; and, twelve Hours after, repeated Bleeding again. By these means the Fever left her, her Belly become soft and easy, the *Lochia* return'd, and she recovered in eight Days.

Her Regimen, during this Course, was of Veal and Chicken-broths, and Water, impregnated a little with Cinnamon, with a small Quantity of Wine.

La Motte accounts for the good Effects of this Method, very rationally, from its relaxing and moistening both the Solids and Fluids.

The same Author, *Obs.* 413. gives an Instance of a Woman, who contracted a Disorder much like the former, by getting out of Bed in a violent Fright, after she had lain in five Days: He tried the Method recommended above; her Pains diminished, but, however, continued for more than forty Days; mean time her Belly grew larger, than it was before she was deliver'd; after this she was suddenly seized with an excessive Pain in the Belly; and, in a few Hours, a vast Quantity of Matter was discharged from an Aperture, which opened itself about four Fingers-breadth on one Side of the Navel. He dressed with a Tent of Lint, armed with a common Suppurative; and cured the Wound perfectly in about eighteen Days.

In case of a Tumor, which will not yield to resolvent Fomentations, *La Motte* advises Cataplasms made of the same Ingredients as the above-mentioned Fomentation, with an Addition of Flowers of Melilot, Fenugreek-seed, and Marshmallow-roots, with which he orders Bags to be filled, and applied to the Part. As soon as he perceives any Signs of Suppuration, he applies the Mucilage and Melilot-plaster; and, when Matter is perfectly form'd, he lets it out with a Lancet at the most depending Part.

Obs. 416. This Author gives an Instance of a very large Tumor happening after Delivery, attended with but very little Pain, without any manifest Cause; there having been no Suppression of the *Lochia*, or any other bad Accident: This he brought to Suppuration by the above-mentioned Cataplasms and Plaisters, and cur'd her in about two Months.

LOCULAMENTA. Loculaments are little distinct Cells, or Partitions, within the Seed-vessels of Plants.

LOCUS. A Name for the *Pseudo-acacia*; *siliquis glabris*.

LOCUSTA. A Name for the *Valerianella*; *arvensis*; *præcox*; *humilior*; *femine depresso*.

LOCUSTA ALTERA. A Name for the *Valerianella*; *arvensis*; *præcox*, *humilis*, *foliis serratis*.

LOCUSTA. *Offic.* *Jonf. de Insect.* 62. *Schrod.* 5. 543. *Mer. Pin.* 200. *Aldrov.* 404. *Mouff. Insect.* 117. *Charlt. Exer.* 44. *Locusta Anglica minor, vulgatissima.* *Rall. Insect.* 60. THE GRASSHOPPER.

It is a winged Insect, of a green Colour, living in the open Fields. Locusts in a Suffumigation relieve under a Dysury, especially such as is incident to the Female Sex. The *Locusta*, called *Asiracus*, or *Onor*, has no Wings, but large Members, while recent. This dried, and taken in Wine, is a very good Antidote against

against the Poison of the Scorpion. The *Africans*, who inhabit about *Leptis*, feed plentifully on this Kind of Locusts. *Dioscorides*, Lib. 2. Chap. 57.

LOCUSTA MARINA is a Shell-fish, of the Lobster Kind.

LOEMOS, *λοιμὸς*, the Plague. See *PESTIS*.

LOGAPORUM Oleum. An Oil prepar'd of Lizards.

LOGAS. The White of the Eye. *Gorræus*.

LOLIGO. The Name of a Sea-fish, of which there are two Sorts, the greater, and the less.

LOLIUM.

The Characters are;

The Seed is almost naked, being slightly covered only with two glutinous or husky Leaves. The Spike is compressed, thin, without a Beard, consisting of small Collections of Grains and Husks, growing alternately to the Stalk between them, defended by a carinated Leaf, and lying in the same Plane.

Boerhaave mentions five Species of this Plant; which are,

1. Lolium; verum; Gelneri; Lolium album. See *AIRA*.
2. Gramen; Lolium; folio & spica angustiore. *Tournef. Inst.* 516. *Boerb. Ind. A.* 2. 157. *Raii Hist.* 2. 1263. *Synop.* 3. 395. *Phœnix*. *Offic. Lolo similis*. *J. B.* 2. 436. *Lolium rubrum*. *Ger.* 71. *Emac.* 78. *Lolium rubrum sive Phœnix*. *Park. Theat.* 1145. *Gramen Lolium angustiore folio & spica*. *Phœnix Dioscoridis*. *C. B. P.* 9. *Theat.* 128. RAY-GRASS, DARNEL-GRASS.

It grows in Pastures, and by the Sides of Paths; it is drying and astringent; stops a Looseness, and the Menstrues; and restrains the Urine: In some Places they sow it as Food for Cattle.

3. Gramen; Lolium; supinum. *C. B. P.* 9. *Theat.* 130.

4. Gramen; Lolium; minus; Ulielandicum. *H. L.* 303. *Commel. Ind.* 53.

5. Gramen; palustre; locustis Erucæformibus. *Barr.* 105. *desf. Ic.* 2. *Boerb. Ind. alt. Plant. Vol.* 2. p. 157.

LOLIUS. The same as LOLIGO.

LOMENTUM. Properly the Meal of Beans, according to *Rhodius*, in his Notes upon *Scribonius Largus*, or Bread made of the Meal of Beans. Also a kind of Chalk made use of by the Fullers.

LONAN CAMBODIA. See *ESULA Indica Bontii*.

LONGICITIS.

The Characters are;

The Leaves resemble those of Fern, but the Pinnule are ear'd at the Base; the Fruit is like that of Fern.

Boerhaave mentions but one Species of this Plant; which is, *Longicitis*; aculeata; major. *T.* 538. *Filix aculeata, major*. *C. B. P.* 358. *Filix mas, aculeata, major*. *C. B. Prodr.* 151. *Boerb. Ind. alt. Plant. Vol.* 1. p. 25.

It is called *Longicitis* from *λόγχιον* (*Louche*) a Lance, because its Leaves are sharp-pointed, resembling the Head of that Weapon. The Root is aperient and diuretic. *Hist. Plant. ascript. Boerhaave*, p. 41.

LONGICITIS MINOR. A Name for the *Polypodium*; angustifolium; folio vario.

LONGICITIS PRIMA. A Name for the *Hermodyctylus*; folio quadrangulo.

LONGICITON. The best Species of Vitriol. *Oribasius, Collect. Medic. L.* 13.

LONGANON, and LONGAON. Names for the *Intestinum Rectum*.

LONGISSIMUS DORSI. This is a very complex, long, and narrow Muscle, something like the *sacro-lumbaris*, but more fleshy, and thicker, situated between the *spinal* Apophyses, and the Muscle just mentioned, from which it is divided by a small, fatty, or cellular Line; but, at the lower Part, they are confounded together. It covers the *Semi-spinalis*, or *Transverso-spinalis Dorsi*, and the *Semi-spinalis Lumborum*. Its upper Part lies between the *Sacro-lumbaris*, and *Transversalis Colli*.

Its inferior Insertions are partly by distinct tendinous Portions, and by a broad Aponeurosis common to it with the *Sacro-lumbaris*, and partly by large Fasciculi of fleshy Fibres, which, at first Sight, seem to compose one uniform Mass. It is fixed by the long, flat, tendinous Portions of different Breadths, to the last *spinal* Apophysis of the Back, to all those of the Loins, and to one or two of the superior Spines of the *Os Sacrum*. These Portions lie at different Distances from each other, but are all connected by a thin Aponeurosis fixed to their Edges.

Thence they run up obliquely, diverging from the Apophyses, and beginning to be fleshy at their inner or anterior Sides; they terminate above in small roundish Tendons, inserted in the Extremities of the seven upper transverse Apophyses of the Back, and in the neighbouring Ligaments of all the true Ribs. Sometimes one Insertion in the Vertebrae of the Back is wanting, and sometimes there is one in the transverse Apophyses of the last Vertebra of the Neck.

The other interior Insertion, wholly fleshy, is partly in the inner or fore Side of the Aponeurosis of the *Sacro-lumbaris*, and partly in the upper Portion of the *Os Sacrum*, being from thence continued to the great Tuberosity of the *Os Ilium*; so that the Aponeurosis of the *Sacro-lumbaris* seems to afford a third Insertion to the *Longissimus Dorsi*.

Thence this uniform Mass of fleshy Fibres runs up in a Course almost direct, crossing the tendinous Portions which are more oblique; and join the inferior Fibres of the *Sacro-lumbaris* by large Fasciculi, inserted in the transverse and oblique Apophyses of the Vertebrae of the Loins. The Fibres of this Portion go afterwards to the Ribs, being inserted by Planes, more or less fleshy, in the lower convex Edge of all the false Ribs, between the Condyles, or Tuberosities, and the Angles.

At the sixth or seventh Vertebra of the Back, one or more of the tendinous Portions often communicate with some Fasciculi of the *Semi-spinalis* or *Transverso-spinalis Dorsi*. By this Description we see, that the *Longissimus Dorsi* is in part a great *Semi-spinalis Divergens* or *Spino-transversalis*, much in the same manner as the inferior Portion of the *Splenius*.

In examining the dorsal Insertions of this Muscle, we meet with several muscular Fasciculi, which cross the tendinous Portions near the Spine; but without adhering so strongly to them as those already mentioned do to the *Sacro-lumbaris*, which they resemble in every other Circumstance: These Fasciculi are fixed above, to the transverse Apophyses of the three or four first Vertebrae of the Back, and below to those of the sixth and seventh.

I have observed other such Fasciculi fixed in the transverse Apophyses of the Back, from the first to the ninth inclusively, and situated between the Extremities of the *Transversalis major Colli*, and of the *Longissimus Dorsi*, with which they communicate at the third Vertebra, or thereabouts.

These Fasciculi might be reckoned a *Musculus accessorius Longissimi Dorsi*, or a *Transversalis Dorsi*, in the same manner as that of the *Sacro-lumbaris*.

Some Anatomists imagine, that the *Longissimus Dorsi* is continued all the way to the Apophysis Mastoidea of the Cranium, taking the *Complexus minor*, or *Mastoidea lateralis*, to be a Portion of this Muscle.

This Muscle, and the *Sacro-lumbaris*, are common to the Back and Loins.

The *Longissimus Dorsi* is an Assistant to the *Sacro-lumbaris*, especially to the vertebral Portion of that Muscle, which it helps very powerfully, both by the Multiplicity and Insertions of its Fibres, in sustaining the Vertebrae of the Back and Loins while extended, whether in Sitting or Standing; and in preventing their sinking under the Weight of the Body, or of any additional Burden: It assists in performing, or in counterbalancing, all the Motions and Inflections, of which these Vertebrae, especially those of the Loins, are capable in all Postures of the Body; and in this it bears, also, some Resemblance to the interior or vertebral Portion of the *Splenius*; and it must here be remember'd, that these two Muscles on each Side, and the *Sacro-lumbares*, are of the Number of those called *Vertebrales obliqui divergentes*. *Winflow's Anatomy*.

LONGITUDINALIS. Longitudinal.

Longitudinal Vessels, in Plants, are such as are extended in Length through the woody Parts of Trees and Plants, into which the Air is supposed to enter, and mix with the Juices of the Plant, and thereby augment its Bulk.

LONGURIUS. A Piece of Iron, which, when heated, is put into an *Astuarium*, or Stove, and thus applied to various Parts of the Body, in order to convey Heat. *Paré*.

LONGUS COLLI. The Name of a Muscle of the Neck.

This vertebral Muscle is made up of several others, situated laterally along the fore Side of all the Vertebrae of the Neck, and some of the upper Vertebrae of the Back.

It may be divided into two Portions; one superior, consisting of oblique converging Muscles; and one inferior, composed of oblique diverging Muscles.

The superior Portion is cover'd by the *Rectus anticus Longus* of the Head: The Muscles, of which it consists, are fixed below, to all the transverse Apophyses that lie between the first Vertebra and the last: Thence they run up obliquely, and are inserted in the anterior Eminence of the first Vertebra, and in the Bodies of the three following. The Insertion in the Eminence is so closely united to the Ligament which goes to the *Os Occipitis*, that it can hardly be distinguished from it.

The inferior Portion appears almost strait; and yet all the Muscles, which compose it, are diverging, or directed obliquely outward: They are fixed below, to the anterior lateral Part of the Body of the last Vertebra of the Neck, and of the first three of the Back; and sometimes of more: From thence they run upward, and a little obliquely outward; and are inserted near the transverse Apophyses of all the Vertebrae of the Neck, except the first and last.

Though these two Portions seem to be confounded with each other; they may, nevertheless, be easily distinguished by an oblique Line, which runs between them, from the transverse Apophysis of the second Vertebra to the Body of the sixth. All the Insertions of this Muscle are more or less tendinous.

The *Longi Colli* bring the Neck forward by the lower Part of their inferior Portions. When one of them acts alone, or acts more than the other, this Motion is more or less oblique.

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The remaining Part of these Muscles are not concerned in these Motions, which seem to be peculiar to the last Vertebrae of the Neck, or the first of the Back.

By the upper and greatest Part of the lower Portion, they counterbalance the posterior Muscles of these Vertebrae, and hinder the Neck from bending backwards, by the Contraction of the Sterno-mastoidæi, when, lying on the Back, we raise the Head.

It must here be remember'd, that the natural Situation of the Bones of the Neck is oblique on the fore Part; and that the Neck is bent in such a manner, as that the convex Side of the Curvature lies forward, and the concave Side backward. Therefore, when we would hold the Neck straight, and bridle it, as it is called, this Curvature must be destroy'd: This is done by these two Muscles, which in this Case make an Extension, in a manner, in opposite Directions; and fix all the Vertebrae of the Neck close to each other, as if they were but one Bone.

The Longus Colli of one Side performs these Motions obliquely, and may likewise co-operate in the lateral Inflexions of the Neck, with the Scalenii, and other Muscles, which perform these Motions. *Winslow's Anatomy.*

LONKET. Spirit of Turpentine.

LOPA. A Scale, or Scoria, of any Metal.

LOPADES, in *Oribasius, Collect. Medic. Lib. 2. Cap. 58.* imports a Sort of Shell-fish, which, he says, are generally small; but that in some Places, as *India*, they are produced large, not unlike Oysters.

LOPHADIA, or LOPHIA, *λοφαδία*, or *λοφία*. A Name for the first Vertebrae of the Back. Lophia, also, sometimes signifies the upper Part of the Back of the Neck.

LOPOS, *λοπός*. Bark, or Scale. In *Hippocrates's* Treatise, intitled *Mochlicus*, it signifies a thin Piece of Leather; *Galen* says, the hard external Part of it.

LOPPA. The metallic Mass, which results from a cemen-tatory Calcination, either with or without Regulus.

LORA. Secondary Wine, made by macerating the Husks of Grapes, after the Juice is pressed out, in Water, and express-ing them again. *Dioscorides, Lib. 5. Cap. 13.* and *Galen, de Aliment. Facultat. Lib. 2. Cap. 9.* give Directions for making this Wine.

LORDOSIS, *λόρδωσις*, from *λόρδος*, bowed or bent inward, (in Opposition to *υῆδς* and *κυφός*, gibbous, as *Galen* writes, *Com. Aph. 46. Lib. 6.*) is an Affection of the Spine, in which it is incurvated, or bent inwards, towards the anterior Parts, men-tioned by *Galen*, in the Place above-quoted, and *Com. ad Aph. 35. Lib. 4.* and *Com. 3. in Lib. de Art.* where he defines a Lor-dosis to be *εἰς τὰ πρόσσω τῆς ῥάχιδος διαστροφήν*, "A Distortion of the Spine towards the anterior Parts." And says, it is occa-sioned, *εἰς τὰ πρόσσω ὄντων τῶν σπονδυλῶν*, "By an Inclination of the Vertebrae towards the anterior Parts." *Hippocrates* uses indifferently *λόρδωσις* (*Lordosis*) and *λόρδωμα* (*Lordoma*), as he uses *υῆωσις* (*Hybosis*) and *υῆωμα* (*Hyboma*), *κύφωμα* (*Cyphoma*) and *κύφωσις* (*Cyphosis*), to signify the contrary Affection, Gib-bosity. *Lib. de Artic. & in Mochlico.* See HYBOMA and CY-PHOMA.

LORICA. A kind of Lute for coating Glass Retorts, made of Glass, and broken Retorts powder'd, worked with Potters-clay, and then moisten'd a little with warm Water. The Glass Vessel is to be cover'd with this about a Finger's-breadth thick, and then is suffer'd to dry gradually, that it may not crack; but, if it should, the Cracks are to be filled up with fresh Lute of the same Kind. *Collect. Chym. Leidens. Cap. 229.*

LORINDE, in *Paracelsus*, is the Sound and Agitation of stagnant Lakes.

LORIND *Matrixis*, is an Epilepsy, or convulsive Disorder, proceeding from the Uterus.

LORUM. A Strap, or Thong, of frequent Use in Surgery. The *Lorum Hildani* is described under the Article FRACTURA, and represented *Tab. XXIX. Fig. 17.* *Lorum Vomitorium* is a Thong of Leather, impregnated with the Juice of some nau-tious Vegetable, which the Antients directed to be thrust down the Fauces, with a View of exciting Efforts to vomit. *Scribonius Largus, N° 180.* advises this Method, in order to discharge Opium from the Stomach, when it has been taken in too large Quantities.

LORUS. Mercury. *Rulandus.*

LOT. Urine. *Rulandus.*

LOTA. See MOTELLA.

LOTIO, or LAVATIO. Lotion, or Washing. This Word is used to express either universal or particular Baths, or Bath-ing. Lotion is, also, sometimes applied to Medicines, which require Washing.

LOTIUM. Urine.

LOTO AFFINIS. A Name for the *Medicago*; *vulnerariae facie*; *Hispanica*; and for the *Vulneraria rustica*.

LOTURA. The same as PLYMIA; which see.

LOTUS.

The Characters are;

The Ovary becomes a Pod, which is sometimes divided by transverse Partitions, as it were into Cells, full of Seeds, which

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are for the most part of a roundish Figure. The Leaves grow by Threes, and, at the Origin of the Pedicle, have two Wings like little Leaves at their Sides.

Boerhaave mentions sixteen Species of this Plant; which are,

1. Lotus; polyceratos; frutescens; incana; alba; major; la-tifolia; siliquis curtis, tenuibus erectis. *M. H. 2. 177.*

2. Lotus; polyceratos; frutescens; incana; alba; siliquis cur-tis; crassioribus, brevioribus, erectis. *Boerb. Ind. alt. 2. 37.*

Trifolium Hæmorrhoidale. Offic. *Trifolium rectum album birju-tum valde.* *J. B. 2. 360.* Lotus *Hæmorrhoidalis major sive Tri-*

folium Hæmorrhoidale majus. *Park. Theat. 1100.* Lotus *penta-*

phyllus siliquosus villosus. *C. B. P. 332.* *Raii Hist. 1. 968.* *Tourn.*

Inst. 403. Lotus *incana sive Oxytrichyllum Scribonii Largi*

Ger. 1022. *Emac. 1191.* PILE TREFOIL.

It grows spontaneously in *Sicily*, *France*, and other Countries: The Seed is in Use, which is commended, by *Riverius*, in the Hæmorrhoids.

3. Lotus; *πολυκέφαλος*; frutescens; Cretica; argentea; lili-quis longissimis, propendentibus, rectis. *M. H. 2. 177.*

4. Lotus; pratensis; siliquosus; luteus; minor; & mollior. *C. B. P. 332.*

5. Lotus; ruber; siliquâ angulosâ. *C. B. P. 332.*

6. Lotus; ruber; siliquâ angulosâ folio variegato.

7. Lotus; luteus; siliquâ angulosâ.

8. Lotus; pentaphyllus; flore majore; luteo; splendente. *C. B. P. 332.* *Trifolium corniculatum, tertium.* *Dod. p. 570.*

9. Lotus; pentaphyllus; angustioribus foliis; luteus; minor; fruticosior. *Raii Synop. 150.*

10. Lotus; siliquis Ornithopodii. *C. B. P. 332.* *J. B. 2. 358.*

11. Lotus; pentaphyllus; minor; hirsutus; siliquâ angustissi-mâ. *C. B. P. 332.*

12. Lotus; pentaphyllus; siliquâ cornutâ. *C. B. P. 332.* *Trifolium, sive Lotus Hierazune, edulis, siliquosa.* *J. B. 2. 365*

Trifolium, corniculatum, Creticum. *Prosp. Alpin. Exot. 268.*

13. Lotus; latifolia; atroviridis; hirsuta; siliquâ crassâ; ca-rinatâ.

14. Lotus; angustifolius; flore luteo purpureo; ex Insula Sancti Jacobi. *H. A. 2. 165.*

15. Lotus; siliquis geminis; peregrina. *Ind. 156.*

16. Lotus; hæmorrhoidalis; humilior; & candidior. *T. 403.* *Boerb. Ind. alt. Plant. Vol. 2. p. 37.*

These Plants are commended against the Hæmorrhoids; the Leaves being bruised and applied; for they are emollient and relaxing: On which account they are used by our Surgeons for the Intentions of mollifying, relaxing, and maturing, in the room of the Mallow. The first and second Species produce a Pea, which is excellent Food. *Hist. Plant. ascript. Boerhaave.*

LOTUS AFRICANA. A Name for the *Guaiacana*; *angustiore folio.*

LOTUS ARBOR. See CELTIS.

LOTUS ENNEAPHYLLOS. A Name for the *Coronilla*; *mi-nima.*

LOTUS PENTAPHYLLOS. A Name for the *Vulneraria*; *pen-taphyllus.*

LOTUS POLYCERATOS. A Name for the *Dorycnium*; *Monf-peliensium.*

Besides the foregoing Species of Lotus, *Dale* mentions the following; which is,

Lotus corniculata glabra minor. *J. B. 2. 356.* *Raii Hist. 1. 967.* *Synop. 3. 334.* Lotus *sive Melilotus pentaphyllus minor glabra.* *C. B. P. 332.* *Tourn. Inst. 402.* *Trifolium siliquosum minus.* *Ger. 1022.* *Emac. 1190.* BIRDS-FOOT TREFOIL.

It grows every-where in Pastures, and flowers in *June*. The Herb is in Use, and, as *Monti* says, is anodyne, emollient, ma-turating, and good for Burns.

LOXIA, *λοξία*. The Name of a Bird, called, also, *Curvi-rostra.*

The Water wherein this Bird has drank, and its Dung, are said to be good against an Epilepsy.

LOZANGA. A Lozenge.

LUBAN. Olibanum.

LUCANUS. The Stag-fly. See SCARABÆUS CORNUTUS.

LUCATELLI BALSAMUM. *Lucatellus's* Balsam. See BALSAMUM.

LUCERNA. The Name of a Fish, called, also, *Hirundo.*

LUCIUS. Offic. *Aldrov. de Pisc. 630.* *Bellon. de Aquat. 297.* *Schonf. Ichth. 44.* *Charlt. de Pisc. 42.* *Gesn. de Aquat. 500*

Jonf. de Pisc. 109. *Mer. Pin. 190.* *Raii Ichth. 236.* *Fujid. Synop. Pisc. 112.* *Rondel. de Pisc. 188.* *Salv. de Aquat. 95.* *Schrod. 5. 329.* THE PIKE or PICKEREL.

It is common in Rivers, and the Parts in Use are the Man-dible, or lower Jaw, and the Fat: This latter is a common Re-medy, and used to anoint the Soles of the Feet, and the Breasts of Infants, in order to make a Revulsion of a Catarrh, or to mitigate a Cough. The Mandible is drying and abstergent, for which Reason it is prescribed as a Specific in a Pleurisy: It is of Service, also, as well as the other Bones of the Head, in the Stone, the Fluor albus, and difficult Childbirth. The Ashes,

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used outwardly, stop a Discharge of Ichor, cleanse old Wounds, and dry the Hemorrhoids. A Water, distilled from the Gall, is esteem'd in Disorders of the Eyes. *Schroder.*

The Gall of a Pike is much recommended for cold Disorders, attended with an Inactivity of the Bile. See *BILIS*. It is, also, reckon'd good for Agues, if taken upon the Approach of the Fit; the Dose is seven or eight Drops, in a proper Vehicle. It is, likewise, said, that the Heart produces the same Effect.

Small Stones are found in a Pike's Head, which are looked upon as serviceable for helping Women in Labour; for purifying the Blood, forwarding the Menfes, and provoking Urine; for expelling the Stone from the Kidneys and Bladder; and for the Falling-sickness. The Dose is from twenty-five Grains to a Dram.

Such as are large, fat, and well-fed, having their Flesh white, firm, and short, are the best; and those caught in Rivers are preferable to those in Ponds, and muddy Places.

The Pike is good and nourishing Food, and agrees at all Times, but especially in Winter, with any Age and Constitution. Some Authors pretend, that it is hard of Digestion, heavy in the Stomach, and always affords bad Juice; but these Qualities are only applicable to such as live in Ponds, and marshy Places, and feed upon Slime and Mud. *Jovius* thinks the Pike has but an ordinary Taste, and *Aufonius* does not esteem it; but its Taste differs according to the Country in which it is bred. The Roe provokes Vomiting, and sometimes purges violently. The Pike contains much Oil, and volatile Salt. *Lemery.*

LUCUMORIANA DORMITIO. A preternatural Sleep, protracted for several Days.

LUDUS PARACELSI. Offic. Charlt. Foss. 17. *Silex ille, quem Helmont Ludum Paracelsi vocat.* Worm. 39. *Ludus Helmontii.* Grew. Mus. R. S. 311. **WAREN VEIN.**

It is a Stone of the Colour of yellow Amber, but more opaque, of different Sizes, distinguished by transcurrent Lines of a dark Ash-colour like Veins. It is frequently found in maritime rocky Places; and is recommended by *Paracelsus* for a Lithontriptic. Doctor *Grew* thinks it a good Diuretic, and may be of Use for expelling Gravel.

LUES VENEREA.

That the Disorder called the *Lues Venerea*, which is endemial in the *West Indies*, was not only brought into *Europe*, but also propagated thro' the several Parts of it, when *Christopher Columbus*, in the Year 1492. discovered the Island of *Hispaniola*, is the Opinion of most Authors who have treated of this terrible Distemper; such as *Rodoricus Diaeus Hispanensis*, in his Book *de Morbo Venereo*; and *Nicolaus Monardes*, in his Treatise *de Simpl. Med. ex novo Orbe allatis*. Tho' 'tis certain from Experience, that this formidable Disorder was first in *Spain*, then in *Italy* and *France*, and afterwards in *Germany*, propagated by Contagion, in consequence of Copulation with impure Women, yet there are some Authors, and among the rest, *Menadous*, in his Treatise *de Virulentia Venerea*, Cap. 24. *Nicolaus de Blegny*, in his Work, intitled, *L'Art de guerir la Maladie Venerienne*, and *Johannes Baptista Sybaldus*, in his Book *de Geneanthropia*, Lib. 9. Tract. 2. who think, that this Disorder may, in the Female Sex, be produced without any virulent Contagion, when, for Instance, a Woman admits of the Embraces of many Men promiscuously, for which Reason they assert, that the Distemper has always raged among Persons uncommonly addicted to profuse Venery, since, from the Stagnation and virulent Corruption of the various Seeds, Humours of an offensive Quality are produced, which infect first the Woman, then the Man, whose Embraces she admits, and, in Process of Time, the Persons who lie in Bed with them. Tho' we do not absolutely reject this probable Opinion, but rather allow, that from this Cause a Disorder, not unlike the *American Lues*, may proceed, yet it cannot be denied, that the Species of the Disorder brought from *America* by Contagion, is attended with more terrible Symptoms, and is far more violent and malignant, than that produced by promiscuous Venery; so that the Disorder may be communicated not only by Copulation, but also by Contact; by the Hands, for Instance, when moist with Sweat; by Kisses, and, in sucking Children, by the close Application of the Mouth to the Breast and Nipple of the Mother or Nurse: And so virulent and contagious is this Disorder, that it may, also, be communicated to others, by drinking out of the same Cup, or wearing the same Clothes used by an infected Person; and the Infection is sometimes lodged in the Body for several Years before it discovers itself, or produces any terrible Effects.

The *Lues Venerea* may be defined, A malignant and putridous Dyscrasy of all the Humours, but especially of the Serum and Lymph, arising from a Venereal Taint, received into the Body. Its Signs and Progress, are as follows: Those who, from impure Venery, have contracted the Disorder, perceive the Force of the Contagion first, and most considerably, in their Pudenda, which become affected with Inflammations, Tumors, Pains, preternatural Heats, Exulcerations, and Discharges of Humours. Then the Virulence of the Poison is diffused first to the most adjacent and contiguous Parts, and, in Process of Time, to those which are more distant and remote; for as soon as the malignant Taint, which gradually acquires fresh Strength, is convey'd to the vital

Juices, the Lymph and Blood, all the Parts, both fluid and solid, are affected by the Corruption brought on. Thus a preternatural Languor and Weariness seize the whole Body; the Strength is greatly impair'd; the Countenance, and especially the Forehead, is strangely disfigured with Spots and Pustules, which are sometimes larger, and sometimes smaller. Tubercles of various Kinds, dry and moist, furfuraceous, or scaly, but of different Colours and Bulks, according to the different Parts they possess, break out here and there all over the Surface of the Body. All the Parts of the Body, being deprived of their due Nourishment, waste away and decay. In the more lax Parts, consisting of Flesh and Fat, malignant Ulcers, which penetrate to the very Bones, are formed. About the Articulations, racking Pains, resembling those of the arthritic Kind, are felt; in the intermediate Parts, also, between the Articulations, intolerable Pains, which rage with greatest Violence in the Night, are perceived, not only about the Periosteum, but, also, in the Medullium of the Bones: Tophi and Gummata, Abscesses and Caries, are, also, frequently formed in the Bones, and so affect their Substance, and the Texture of their constituent Laminae, that in destroying their Cohesion they are corroded, and fall asunder. Besides these Symptoms, it sometimes happens, that the Hairs fall off; and the inguinal and axillary Glands, together with those of the Neck, in consequence of the Stagnation of the contaminated Lymph, contract Tumors, which, if neglected, degenerate either into Ulcers, or a Scirrhus. And these Symptoms lay a Foundation for a still greater Number of Misfortunes; so that the *Lues Venerea*, instead of being called one Distemper, may justly be pronounced a fatal Combination of an almost incredible Number of Disorders.

But in no Part of the Body are the Effects of this virulent Infection more conspicuous than in the Head; for, besides the intolerable nocturnal Pains with which this Part is afflicted, the Hairs fall off from the Cheeks and Eye-brows; in the Lips, Mouth, and Palate, Pustules and Tubercles are formed, which degenerate into malignant Ulcers. The Gums are covered with Aphthae and Ulcers, which not only render the Teeth loose and carious, but also make them drop from their Sockets. The Uvula, the Tonsils, and all the Membranes covering the Fauces, are affected with intense Heat, Pain, Inflammation, and Exulceration. The spongy Bones of the Nose, becoming carious, are consumed; and, being deprived of the Palate, which supported them, the Nose falls; after which, the Patient's Breath is not only putrid and disagreeable, but his Speech in a great measure vitiated, and an incurable Hoarseness brought on. Neither do the Ears and Eyes escape the Fury of this Disorder, since, by its means, the latter are externally affected with Pain, Redness, Itching, and Lipirude, and internally, being loaded with Humours, their Sight is destroy'd, and sometimes a Suppuration is brought on. The Ears are afflicted with a violent Ringing and Pain, whilst their internal Substance is exulcerated, and rendered carious. The Bones of the Cranium are, also, frequently corroded, and deformed with Tophi and Gummata. Thus *Rhodius*, in *Cent. 1. Obs. 33.* gives us an Account of a Countryman labouring under a *Lues Venerea*, in whose Dura Mater he observ'd three white Gummata.

These are the principal Symptoms, with which this terrible Disorder is attended; and how much they are capable of injuring, diminishing, and, at last, totally abolishing the whole Fabric of the human Body, and the various Functions of its Parts, is sufficiently obvious from what has been said. *Sydenham*, in his Epistle *de Lue Venerea*, has given a full and accurate History of this Disease, when beginning, when arrived at its greatest Height, and when in its Decline; and taught us in what manner it first discovers itself, and afterwards, insinuating itself deeper, and diffusing its Influence wider, how it affects, weakens, and disorders the remote Parts. But, in order to prevent Mistakes, it must be observed, that all the Symptoms already enumerated are not found in all Patients labouring under this Disorder; for some of them are only to be observed in some, and others of them in others. Nor are we rashly, from some of the Symptoms, but rather from a considerable Number of them, to determine, with respect to the Presence of this Disease; nor ought we, when at first Tumors, Exulcerations, and other Disorders of the Pudenda, appear, to take the Disease for a confirmed, but rather a beginning *Lues*, since these Symptoms, when duly treated, and seasonably cured, never terminate in a *Lues*.

Though I am of Opinion, that the *Lues Venerea* may be easily known by the above-mention'd Signs, yet I shall specify some Diseases, with which it seems to have some Agreement and Analogy. Of these the most considerable is, the Scurvy; which, as well as the *Lues Venerea*, is accompanied with a Languor and Torpor of the Body, wandering as well as fixed Pains, which are increased in the Night-time, Contractions of the Nerves, Pustules, hard Tumors, and various Exulcerations both of the Mouth and Penis, as *Engelennus*, in his Treatise *de Scorbuto*, informs us. So that 'tis not to be wonder'd at, that *Charleston*, in *Lib. 1. de Scorbuto*, Cap. 4. affirm'd, there was so great an Analogy between the *Lues Venerea* and the Scurvy, that there were some Symptoms so common to both Disorders, that they could not be distinguished by the most skillful Physician, especially in the maritime

maritime Coasts of the more Northerly Climates, such as *Denmark, Sweden, and Holland*. If, therefore, these two Diseases should happen to rage in one and the same Place, great Diligence is requisite to form a right Judgment of each Disease; for there are certain and infallible Marks, by which the skilful Physician is enabled to distinguish Venereal Pustules, Serpignes, and Ulcers, seemingly of a cancerous Nature, from scorbutic Impurities. But these Marks are more easily learned from Practice and Experience, than taught by Precept and Instruction. *Eugalenus*, however, establishes this Difference, that in Venereal Eruptions, when laid open with a Cautey, the Matter is pinguious, and resembles smoked Bacon; whereas the Matter of scorbutic Eruptions has no such Appearance. Besides, the scorbutic Spots rarely appear till after the Gums are exulcerated, and the Legs become livid, or black; whereas 'tis quite otherwise with the Venereal Eruptions. The Whole of scorbutic Ulcers are, also, generally livid, whereas those of the Venereal Kind are red about the Edges, whilst their Cavities are of a whitish cineritious Colour. As for scorbutic Exulcerations of the Mouth, they first affect the Gums, and afterwards, tho' gradually and slowly, the Fauces and Tonsils; whereas Venereal Exulcerations generally first affect the Fauces, and its Parts, and then the Gums.

We are not, in like manner, to be too forward and precipitant in pronouncing an Herpes, an Impetigo, or other inconsiderable cutaneous Ulcers, a Lues Venerea; but ought rather first to inquire, whether the other Signs concur to give the Disorder that Denomination. But these cutaneous Diseases differ principally from those of the Venereal Kind in this respect, that the former, after the Eruption, are not attended with Inquietudes and Weariness of the Body; are by no means accompanied with such intense Pain; and are not in the Night-time so augmented by the Heat of the Bed, tho' by that means their Itching is increased. The same Caution is to be used with respect to Tophi, Nodes, and Ganglions, which may not only proceed from a Venereal Taint, but, also, from any violent Tension and Vellication of the nervous Parts, as we sometimes observe after genuine arthritic Pains. Unless, therefore, there are some other concurring Symptoms to determine our Judgments, we are never too rashly to suspect a Lues Venerea. Nor are we indiscriminately to account all Tumors of the Glands Venereal, since these are frequently seen in various Parts of the Body, in Cases where there is no Reason to suspect any Venereal Taint, as is sufficiently obvious in strumous Cases. But, in judging of the several Diseases which bear an Analogy to the Lues Venerea, the Physician ought, above all things, to consider the former Life of the Patient, which, if it has been luxurious, and spent among lewd and profligate Women, often affords a pretty satisfactory Proof of a latent Venereal Taint, especially when the other Signs concur to prove the same. The Patients, also, where there is a Suspicion of a Lues Venerea, are to be strictly examin'd whether they know the particular Manner in which the Contagion was communicated to them; and to be exhorted in a friendly manner to discover their own Suspicions to the Physician, though most Persons, either through a Principle of Modesty, or Fear, conceal the Origin and Progress of the Disease, and are unwilling, when arriv'd at the Years of Maturity, to confess themselves guilty of the Follies of Youth. But if any one confesses, that, in consequence of Copulation, he had before contracted a Gonorrhœa, Exulcerations, and other Disorders of the Genitals, we are carefully to inquire how these Disorders came to be removed, since from this Circumstance a Judgment of the Disease may be the more easily form'd.

We now come to consider the Cause of the Lues Venerea; and as in *Europe* this Disorder is only to be ascribed to Contagion, and a morbid Taint, communicated from those who are infected to those who are sound, we shall here briefly examine by what means this destructive and highly subtle Poison exerts its Violence on the human Body. Now Authors agree, that the Venereal Taint is principally communicated in the following manner, when, for Instance, either by Friction or Contact, in sucking, kissing, or suckling, the Poison insinuates itself into the Pores; or when, exhaling in form of Vapours, it enters the adjacent Parts; or, which most commonly happens, when it is communicated by impure Copulation to either of the Parties. Though in these Circumstances Physicians are sufficiently agreed, yet they widely differ with respect to the specific Nature and Manner of acting of this Poison, since some derive its Virulence from an acrid, corroding, and coagulating Acrimony; others from an alkaline corrosive Salt; and others from a certain specific Acrimony. But all this is absurd Jargon, since each of these Hypotheses takes the Effects produced by this Poison for the Cause producing them. But, in my Opinion, an over-curious Investigation of this Matter is not absolutely necessary, since there are in Nature many Substances of so fine and subtle a Contexture, that their intimate Nature and Crasis, and consequently their surprising Method of acting, entirely surpass our Comprehensions. This is sufficiently obvious in the Plague, the Small-pox, the Leprosy, malignant Itches, the Bite of a mad Dog, and others of a like Nature, in which no one has hitherto

been able to explain the Nature and Quality of the Poison. But 'tis sufficient for all the Purposes of Medicine, by resisting the pernicious Effects of the Poison, to prevent its operating on the human Body; especially since, in Matters of an abstruse Nature, 'tis more expedient to confess our Ignorance, than to advance things which cannot be proved.

Fernelius, in a distinct and accurate manner, delivers his Sentiments of this Disease, in the following Words: "In the Venereal Disease, and others of a venomous Nature, many Physicians are grossly deceived, because, when they observe these Disorders discover themselves by a Peccancy, an Acidity, for Instance, or Acrimony, of any of the Juices, they conclude that the Disorders are produced by this Acidity or Acrimony alone, without inquiring whether there is in the Humours any other Principle which excites the Disorder. And though, without doubt, such a Principle cannot be subjected to the Senses, yet it may still be rationally conceived to exist; otherwise we must remain in profound Ignorance with respect to these Disorders." Besides, if we refer the abstruse and specific Energy of this spreading Contagion to manifest Qualities, such as an acid, a saline, or alkaline Acrimony, we must certainly commit egregious Blunders in Practice, since it would not be difficult to remove the Acrimony of any Humour by proper Medicines, which however cannot be easily done in a Lues Venerea. For which Reason, those, in my Opinion, seem to be in a great Mistake, who think, that Quick-silver, the most powerful Antidote against this Disorder, operates by means of a highly penetrating Principle of an alkaline Nature, which subdues and corrects the peccant Acid.

But, that I may not be thought to pass over in Silence every thing relating to the Nature of these subtle and active Poisons, I shall deliver my Sentiments concerning them. Supported then by a long Course of Experience, I affirm, that the Nature of the contagious and Venereal Poison consists in an highly subtle sulphureous Fluid, or in a phlogistic, ethereal, and fermentative Principle, which, diffusing itself, contaminates the other Juices of the human Body. And there are various Circumstances from which this Property of the Venereal Poison may be deduced; for 'tis well known both to Philosophers and Physicians, that a Sulphureo-ethereal, or oleous, or any other Fluid, may be surprisingly divided, dissipated, and multiplied, as is obvious in Substances furnished with such a Fluid as Civet, Musk, and the Fume of Sulphur, the smallest Molecules of which are capable of being so diffused, as to communicate the same Smell to an incredible Number of other Bodies. Now, if we consider the Venereal Poison, it is of such a Nature, that it may for many Months, or even many Years, lie concealed in the Body, before it produces any terrible Effects; which certainly could not happen, if it was of another Nature, and, at the same time, lodg'd in the Blood and Lymph; because, by the continual Circulation of these, it would be brought into Action; so that the Venereal Poison may be justly defin'd, A Ferment of a sulphureous and oleous Nature, which, being sheath'd up in a pinguious Substance, is, with Difficulty, unfolded, and not easily mix'd with the other Juices. This Opinion is confirmed by the Propagation of the Contagion; for whether the Venereal Taint is, through the Pores, communicated to a sound Person, it is only, at first, mix'd with the pinguious Fluid lodg'd under the Cuticula; or whether it is convey'd by impure Copulation, it is in like manner, at first, only insinuated into the pinguious Membranes of the Pudenda, or the seminal Lymph, which, also, consists of oleous Parts, till, at last, by means of these Juices, as a pinguious Vehicle, it is conveyed to the Lymph and Blood, and infects, contaminates, and vitiates, the whole Mass of Humours.

This Opinion is still more effectually confirmed, if we reflect on other Diseases communicated by means of Contagion; such as the Plague, the Small-pox, the Measles, and petechial Eruptions; the Matter of which is, also, of a putrid sulphureous Nature, and may, for a long time, lie latent, and wrapt up in a pinguious Viscidity, till, being freed and disengag'd, it is by other Causes put into a multiplicative Ferment, and conveys the same Taint to the vital Juices. And the terrible Effects of the Venereal Poison, which discover themselves by a putredinous Corruption of the Humours, are to be ascribed to a Principle of a sulphureous Nature, since 'tis certain from Experience, that pinguious Bodies are far sooner brought into a State of Putrefaction than others. Thus I have known some wounded in the Belly, whose Omentum, being very fat, and protuberating from the Wound, soon became so putrid, that the By-standers could not bear the fetid Smell. The celebrated *Boerhaave* is much of the same Opinion, and delivers his Sentiments in the following manner: "The Venereal Poison is first lodged in that pinguious Humour of the human Body, which in sound Persons fills what the Antients call'd the Panniculus adiposus, and the Moderns Membrana cellulosa, so that the Contagion, entering the Pores of the Epidermis, passes through the Skin to the Cellule of the Membrana adiposa, where, mixing itself with the pinguious Liquor lodg'd there, it is, by the continual Heat, Motion, and Continuance, more and more heighten'd in its Quality, corrodes and cor-

" rupts

"rupts the superincumbent Skin and Cuticula, whilst, in the mean time, it contaminates the adjacent oleous Cellulae all around. Hence the Disorder is farther spread in the Panniculus adiposus, than in the superincumbent Skin, which is destroyed and corroded."

What has been advanced by *Boerhaave*, sufficiently proves, that the Membrana adiposa is not only the principal Receptacle of the Venereal Poison, but, also, that it is principally affected, when the Blood is already tainted, and the Disease pretty far advanced, as is sufficiently obvious from the various external Corrosions, and phagedenic Ulcers. But the Truth of this is still more effectually evinced by what the same celebrated Author, a little after, advances: For, says he, "The Membrana adiposa, as it were, suppurating, the denudated Muscles appear beautiful and seemly. The Ulcers only prey upon the Tunica adiposa, without affecting the Skin; unless it should be destroy'd in consequence of a Consumption of the subjacent Vessels." For this Membrane is soft, of a lax Contexture, and continually lubricated with a pinguious Juice, which circulates slowly, and remains long in that Part. Hence, if the Membrana adiposa is in any manner corrupted, it is easily susceptible of the quick and wide-spreading Taint, whilst, at the same time, the subjacent Muscles, and superincumbent Skin, are unaffected; perhaps, because these Parts are of a firmer Contexture, and, consequently, more capable of resisting the Corruption.

But as nothing contributes more to sink the Reputation of a Physician, than a wrong Prognostic; so great Judgment and Circumspection is requisite in forming it, lest we should shamefully tread in the Steps of Empirics, who, where there is the slightest Beginning of a Lues, pretend there is great Danger, and, for that Reason, subject the Patient to harsh and cruel Medicines; or, when the Infection is great, and the Case full of Danger, promise an easy Cure by their Arcana. The Violence of a Lues Venerea, and the more or less dangerous Events depending upon it, ought to be principally estimated from the following Circumstances. First, then, If the Patient is young, or arriv'd at the Years of Maturity, and is of a sanguine and healthy Constitution, he will more easily support the Disorder, than those who are choleric, piquitous, or less robust, such as Infants, Children, and old Persons. But this Rule does not hold with respect to Women, who, tho' weaker than Men, yet generally stand the Shock of this Disorder better than they, so long as their Menses continue. The Cure of this Disorder, also, succeeds better in the Spring and Summer, than in the Autumn and Winter; and better in hot and Southerly Climates, than in moist and Northerly Countries, where there are large and frequent Falls of Rain: For this Reason, many, who go from *Germany* to *France*, are, by that means, more easily freed from this Disorder: Not because in *France* the best Physicians are to be found; but, principally, because the mild and temperate State of the Air greatly favours the Cure of this Disorder. It is, also, obvious, that a beginning Lues is more easily cured, than one which, being long continued, has taken deep Root. Nor are we, for this Reason, ever to despair, or desert the Patients labouring under this Disorder; but, when milder Medicines prove ineffectual, we are to have recourse to those of a more drastic Nature; and, on the contrary, we are sometimes to desist from strong Medicines, and use those of a more mild and benign Nature, according to the State and Constitution of the Patient; by which means, Patients, in a desperate Situation, have been often restored to perfect Health: A memorable Instance of which is given by *Fernelius*, in *Cap. 17*.

But that the Physician may not be deceived, with respect to the Event of the Disease, he is to have a due Regard to the different Stages of the Disease, or the Violence of its concomitant Symptoms. It is, therefore, to be observed, that they, who, in the first Stage of the Disease, are only afflicted with a violent Gonorrhoea, a Discharge of malignant white Matter, Bubos, and Swellings of the Testicles, nocturnal Pains of the Head and Joints, consequent thereto, and have the peccant Matter only lodged in their Fluids, are easily recovered. In the second Stage, where there are Ulcers of the Penis and Fauces, together with Pustules and Boils diffused all over the Body, which they call the *Great Pox*, and which comprehends other external Ulcers, and where the solid Parts are already, in some measure affected, the Cure is far more difficult, but still possible; except other Circumstances, such as the Patient's Method of Life, his Strength, and the concomitant Disorders, prevent it. The third and highest Stage, which is accompanied with a Caries of the Bones, a profound Exulceration of the Palate, Bones of the Nose, and Lungs, is so highly dangerous, that all Hopes of Recovery are lost; for the more noble the Parts corrupted are, and the more necessary for the Functions of Life, the greater the Danger arising from a Lues Venerea is; which, also, holds true with respect to any other Parts, which, being, in a great measure, out of the Reach of Medicines, cannot be extirpated, if there should be a Necessity for it. In like manner, if the Patient's Body is impure, and full of scorbutic Humours, or if any of the most considerable Viscera, such as the Lungs, Spleen, Liver, or Uterus, are corrupted, the Patient's Condition is, in a great measure, desperate;

because, in such a Situation, a Salivation can hardly be used with Safety. Hence it is, that this Disease, which, of itself, is not always mortal, frequently destroys the Patient, in consequence of various unlucky Circumstances; for some, who labour at once under a Scurvy, and Corruption of the Viscera of the lower Belly, die of a Dropsy. Some, whose Lungs are ulcerated, die of a Phthisis, or Hectic. Others, whose Bones are rendered carious, and corroded by a poisonous Ichor, fall the unhappy Victims of intolerable Pain; whilst others die of a Sphacelus, or a Cancer of the Palate and Uterus; and in these Cases the Carcase is so mangled and putrid, as even to be disagreeable Food to the Worms.

THE CURE.

As, in this terrible and obstinate Disorder, the whole Mass of Blood and Lymph, in consequence of the malignant Taint, assumes a putrid, vapid, and viscid Crasis, highly unfriendly to Nature, from which alone all the Symptoms of this Disorder arise; so, in order to remove this principal Cause, no more proper Intention can be pursued, than through all the Emunctories to expel from the Body, and its smallest Vessels and Recesses, the whole Mass of corrupted Humours; for, by this means, the most violent Symptoms, such as Obstructions of the secretory and excretory Glands, together with Inflammations, and Exulcerations of the Bones, and all the solid Parts, spontaneously cease, when their productive Cause is removed. But, hitherto, there are only two Methods known of expelling from the Recesses of the solid Parts the whole Mass of peccant and tainted Humours; the one by a liberal and long-protracted Discharge of Sweat, and the other by a Salivation, continued for a sufficient time.

As for the former of these Methods, by means of Sudorifics, we must here observe, that all Sudorifics are not equally proper for this Intention, but only such as not only open the excretory Ducts of the Skin; dilute, resolve, and digest, the viscid Humours; but, also, and more especially, such, as, by increasing and augmenting the systaltic Motion of the Vessels of the Heart and Glands, put the viscid and corrupted Humours, lodged there, in Motion, and expel them from the most latent Recesses of the Parts. For this Purpose the most celebrated Medicines are the Wood and Bark of Guaiacum, the Roots of *China* and *Sarsaparilla*, together with the Wood and Bark of *Sassafras*, prepared in Decoctions, which are to be drank in order to excite Sweat. But among these the most powerful is Guaiacum, and its Bark, with which the *Americans* themselves happily cure a Lues Venerea; because this Wood is furnished with a certain acrid and resinous Principle, absolutely necessary for irritating the solid Parts. Thus, from this Wood, by means of highly rectified Spirit of Wine, a resinous Essence is prepared, which, when mixed with half the Quantity of Spirit of Tartar, and exhibited in a warm Vehicle, effectually promotes Sweat. But it is both safer, and more customary, to use a Decoction of this Wood and Bark, prepared by boiling an Ounce of them in three Pints of Water, for an Hour; by which means the subtle resinous and balsamic Part only is extracted, and the grosser Substance of the Resin left; for the same Decoction, when gently evaporated to Dryness, leaves a Powder of a brownish Colour, of a Taste and Smell resembling that of the *Opobalsamum*, and possessed of so penetrating an Acrimony, that half a Grain of it, snuffed up the Nostrils, by exciting a violent Sneezing, powerfully, and without any Disadvantage, expels the Mucus from the Sinuses of the Nose.

From these Effects we may justly conclude, that Decoctions of Guaiacum, exhibited in due Quantities, and at proper Seasons, by their acrid, subtle, and balsamic Principle, stimulate the nervous Fibres and Coats of the Glands and Vessels, to brisker Motions; and, by increasing the systaltic Motion of the Vessels, excellently promote the Circulation of the Lymph and Humours. Such a Decoction may, according to the Circumstances of the Patient, be commodiously exhibited warm in the Morning, for one, two, or three Months, the Patient, in the mean time, waiting for a gentle Sweat in Bed. By this Medicine alone I have known skilful Physicians cure several Persons of phlegmatic and spongy Habits of Body. Some, also, in order more effectually to resolve the Viscidity of the Humours, order this Decoction to be used with a Laconic Bath, prepared of kindled Spirit of Wine. Nor is this Piece of Practice to be condemn'd, provided it is only used with due Caution and Circumspection.

But, in tender, lean, and delicate Patients, this Decoction of Guaiacum is not always proper for removing a Lues Venerea, because it excites a too violent Motion and Ebullition of the Humours. For Patients of this Kind, Decoctions of more temperate Woods and Roots are far more proper, such as the Roots of *Sarsaparilla* and *China*, *Sassafras* and *Juniper-wood*, the Roots of *Succory*, *Soapwort*, *Burdock*, *Liquorice*, and others, which may, for the sake of a better Extraction, be cover'd with Oil of Tartar *per Deliquium*; the Salt contained in which is highly efficacious in opening the firm, resinous, and viscid Texture of these Ingredients. But such Decoctions become far more

powerful

powerful in removing a Lues Venerea, if crude Antimony, tied up in a Bag, or, which is the Practice of some, Quicksilver, is added to them in the boiling. Strong Decoctions of these Ingredients may be drank in the Morning; but, for ordinary Drink, if such a Course is intended, the Ingredients must be boiled in three times the Quantity of Water, adding Currants, according to the State of the Patient, and a little Cinnamon, in order to render the Decoction more palatable.

The following may serve as Specimens of the Decoctions to be used for such Intentions:

Take of the Shavings of Guaiacum-wood, four Ounces; of the Bark of Guaiacum, one Ounce; of *China* Root, and the Roots of Sarsaparilla, each half a Pound; of the Roots of Succory, and Liquorice, each two Ounces; and of Salt of Tartar, half an Ounce.

An Ounce and an half of these Ingredients, together with two Drams of crude Antimony, tied up in a Bag, are to be boiled in three Quarts of Water; and, when the Liquor is strained, the Patient is to drink the third Part of a Quart, in order to promote Sweat. To the Ingredients, left after boiling, add two or three Ounces of Currants, and three Quarts of pure Water; boil all together; and, after straining, let the Patient use the Liquor for ordinary Drink. But, if a weaker Decoction is desired;

Take of the Roots of Sarsaparilla, half a Pound; of *China* Root, and the Roots of Vipers-grafs, each four Ounces; of the Roots of Succory, and Liquorice, each two Ounces; of the Bark of Sassafras, one Ounce; and of Salt of Tartar, three Drams. Let the Quantity of the Ingredients and Water be the same as in the former Decoction.

In the Beginning of a Lues Venerea, great Relief is afforded by a due and proper Use of these Decoctions. Yet, when the Disorder is deep-rooted and inveterate, and a terrible Train of Symptoms appearing in consequence of the Infection already conveyed both to the fluid and solid Parts, these Decoctions do not always answer the Expectation of the Physicians; and the Violence of the Disorder, especially in cold and northerly Countries, requires, that their discutient and resolvent Qualities should be increased by the Addition of some more efficacious Medicines; which Purpose I have found, from Experience, to be best answer'd by exhibiting, in Conjunction with such Decoctions, a proper Dose of some antimonial or mercurial Preparation, the most considerable of which are *Æthiops Mineral*, or the Golden Sulphur of Antimony precipitated from a Lixivium of the Scorix of Regulus of Antimony, with a Solution of Gold. Three or four Grains of this Preparation are highly efficacious in removing out of the Blood Impurities of every Kind. This Intention is, also, answered by the Tinctura Antimonii acris, or the sulphurous Salt of Antimony, prepared from the Scorix of simple Antimony; or by Powders prepared of two Parts of the Cerus of Antimony, and one Part of the Cinnabar of Antimony; all of which, if duly exhibited with these Decoctions, in Conjunction with a proper sudorific Regimen, powerfully resolve and colliquate the viscid Humours fixed in the small Vessels, and copiously evacuate them, not only by Urine, but, also, by Sweat.

But, that this Cure by Sudorifics may terminate the better, I am of Opinion, that the Body ought to be previously prepared for bearing it without any Disadvantages: For this Purpose, when there is a Plethora, a proper Quantity of Blood is to be taken away; then, by proper Purgatives, the Sordes of the Primæ Viæ, and the whole Body, are to be carried off by Stool. But since this Intention is not to be promiscuously answered by all Medicines of a purgative and laxative Quality, but only such as by their Natures are adapted to this End, we shall enumerate the most proper, which are resinous Gums, such as Gum Ammoniac, Sagapenum, Opopanax, and Galbanum, which, when render'd stronger by the Extracts of Rhubarb, or black Hellebore, or by Mercurius dulcis, may, by means of the Essence of Guaiacum-wood, or *Peruvian* Balsam, be reduced to the Form of Pills; half a Dram of which may be taken for a Dose: When the Patient is purged, by means of these Pills, three or four times exhibited about every other Day, the Cure by Sudorifics is to be begun, and a proper Regimen used; which principally consists in the Patient's using light and slender Food, such as Biscuits, a small Quantity of roasted Flesh, with ston'd Raisins, weak Broths of Veal, or Fowls boiled with Lettice, Endive, Asparagus, and Celeri: They must, also, as much as possible, abstain from pinguous Substances, boiled Flesh, Fish, Preparations of Milk, and farinaceous Substances.

The Method of curing the Lues Venerea by Salivation becomes proper, when the Disorder is deeply rooted, and can neither be remov'd by a strict Regimen, nor the Force of Sudorifics, in which Case more efficacious and Herculean Medicines are to be used; such as Preparations of Quicksilver, which are the most powerful Antidotes in this obstinate Disorder; because,

for this Purpose, there is not in Nature a more infallible and efficacious Medicine than Mercury; since, in consequence of the Subtlety of its Parts, by penetrating into the most remote Recesses of the Body, it not only powerfully resolves the viscid, tenacious, and, as it were, coagulated Humours; but, also, eliminates them by the Glands of the Palate and Fauces.

There are various Methods of exhibiting Mercury, in order to excite a Salivation. Thus the Antients endeavour'd to cure the Lues Venerea by Suffumigations of Mercury, resolved into Vapours. But this Method is attended with considerable Disadvantages; because the gross and thick Fumes of the Mercury are prejudicial and unfriendly to the nervous System: But Mercury is at once more frequently and safely used, when killed by proper Ointments, and in that Form applied to the proper Parts of the Body. This Method greatly prevails in *France*, where the Surgeons, in order to excite a Salivation, intimately mix an Ounce of Quicksilver, extinguished in a sufficient Quantity of Turpentine, with Ointment of Roses and Pomatum, each an Ounce; adding about ten Drops of Oil of Lavender, and half a Dram of *Peruvian* Balsam. With this Ointment the Ancles, and, if it is necessary, the Knees, also, are to be anointed in the Morning, with an empty Stomach, before a warm Fire, for three or four Days, till a Discharge of the Saliva is excited; not omitting, at the same time, the Use of a temperate Decoction of the Woods.

But, when the Lues Venerea is very obstinate, some Physicians and Surgeons think it more safe to excite a Discharge of the Saliva, by Preparations of Mercury internally exhibited: For this Purpose they exhibit four or five Grains of duly prepared Mercurius dulcis, reduced to a Powder, with the same Quantity of diaphoretic Antimony, and Crabs-eyes, with Conserve of Roses, either in Water-gruel, or some proper Infusion; increasing every other Day the Dose of the Mercury, by an Addition of two or three Grains; and thus gradually ascending till the Dose is half a Dram, and a Discharge of the Saliva is excited; which in some, especially those of tender Constitutions, happens on the seventh, and, in others, on the ninth or eleventh Day. But if in Patients of languid, torpid, and phlegmatic Constitutions, the Mercury should not operate duly, then Mercurial Unctions are for some Days to be used externally; by which means two or three Quarts of Saliva are often discharg'd: Then we are totally to abstain from the Use of Mercurials, whether internal or external; and by no means to repeat their Use so long as the Salivation proceeds duly; but are rather to be careful to preserve the Patient from Cold, and keep him moderately warm, a Circumstance which greatly contributes to the Cure of the Lues Venerea: For which Reason we find, that the equable and temperate Heat of the Spring greatly favours the Cure of this Disease. The Patients must, also, abstain from Summer-fruits, lest a Diarrhœa should be excited: Neither must they ever drink cold Liquors, Ale, and much less spirituous Liquors; but rather, in their stead, Decoctions of *China* Root, and the Roots of Vipers-grafs and Liquorice, with an Addition of Raisins. And this Salivation is to be continued for a Week, two, three, or more, till the Saliva is discharged clear and limpid, and there is no longer a fetid Smell of the Mouth observed.

But since, in order to cure a Lues Venerea by Salivation, it is of great Importance to have the Body duly prepared, we are for this Purpose, in plethoric Patients, to take away a sufficient Quantity of Blood; and the Impurity of the Humours is to be removed by proper Correctors. This Intention is answer'd, not only by temperate and diluting Decoctions, and absorbent Powders, of a gently diaphoretic Quality, but, also, and more especially, by the Laxatives above prescribed, which eliminate the superfluous and serous Sordes from the Body.

PRACTICAL CAUTIONS.

In order to the due and judicious Cure of every Lues Venerea, the Physician is always to have a due Regard to the Condition of the Patient, so that by accurately distinguishing Persons of weak Constitutions, Children, and pregnant Women, from Patients of hardy and robust Habits, he may discover what Methods of Cure will best suit their respective States and Conditions. It is, also, necessary, he should carefully distinguish a recent Lues from one of the inveterate Kind, accompanied with a large Train of violent Symptoms: For different Stages of the Disorder require different Treatments, either by means of milder or more drastic Medicines: And, unless these Cautions are duly and carefully observed, we run a risque, either of dismissing our Patients irreparably miserable, or of throwing them into some more terrible Disorder.

As a Salivation, unless duly managed, is productive of very terrible Effects, so there are many Cautions to be observ'd, both before it is excited, and under it. When cacoehymic and scorbutic Patients are infected with a Lues, we must be very cautious and circumspect, before we excite a Salivation; for when we exhibit Mercurials to Patients of such impure Habits, and attempt to excite a Salivation by that means, far more formidable Symptoms are produced; because the Mercury, associating with the Salts contain'd in their Humours, acquire an highly

corrosive Quality. It will in such Cases, therefore, be more proper to proceed in the following Manner: After having first cleansed the Primæ Viæ by a laxative Preparation of Manna and Rhubarb, the Patient is for a Month to drink sweet Whey, impregnated with the Juice of antiscorbutic Herbs; such as Scurvygrafs, Fumitory, Brooklime, and Water-creffes; or a temperate Decoction of the Woods, mixed with Milk: After which Measures, Decoctions of the Woods, or, if it is necessary, Preparations of Mercury, may be safely used. The like Caution is to be used in exciting a Salivation in Men subject to spasmodic and hypochondriac Disorders, and in Women disposed to those of the hysteric Kind; as, also, in those of both Sexes, who are subject to Congestions of Blood, or Evacuations of it through the Nose, the Lungs, or the hæmorrhoidal Veins. As for all such Persons a Salivation is improper, so it is still less to be excited in those whose Viscera labour under any Disorder, lest, their Obstructions being by that means augmented, the Patient should be destroy'd.

Besides, it is generally observable, that Patients of dry and lean Habits do not bear Mercurials so well as others; so that, before a Salivation is excited in such Patients, it is highly expedient we should previously render the Humours sufficiently fluid, and relax the rigid Fibres, which are greatly disposed to spasmodic Constrictions. This Intention is most commodiously and effectually answer'd, by using temperate Baths of sweet Water, in Conjunction with mild Decoctions, for two or three Weeks before the Salivation is attempted; by which means we often observe the Mercurials to operate in a mild, and, at the same time, a successful Manner.

A Salivation is sometimes accompanied with a very terrible Train of Symptoms; such as a Looseness of the Teeth, now of a blackish Colour, in consequence of a too great Relaxation of the Gums; a Swelling of the Tongue and Fauces, accompanied with a Difficulty of Mastication and Deglutition; a Loss of Appetite; an Interruption of Sleep by the immoderate Discharge of the Saliva, which, also, continues in the Night-time; and a very considerable Loss of Strength: All which Symptoms proceed partly from the violent Effusion of the Saliva, and the strong Impulse of the Serum, convey'd from the Extremities and inferior Parts to the Fauces; and partly from a Diminution of the Discharges by Stool and Urine. For this Reason, if the Discharge of the Saliva is immoderate, and too much impairs the Strength, it is expedient to derive the Motion of the Humours to the inferior Parts, by bathing the Feet, by Clysters, and by Laxatives prepared of Manna and Rhubarb; or, if these are not sufficient, by means of the balsamic Pills, heighten'd in their Quality with the Extractum Panchymagogum Crollii; or by means of the Powder of Rhubarb, heighten'd by sulphurated Diagyridium, and with the Syrup of Succory with Rhubarb, reduced into the Form of an Electuary; which, at the same time, greatly corroborates the Gums. Infusions, also, of Paul's-betony, Scabious, Elder-flowers, and Sage, when frequently drank, are of considerable Service; because, by their means, the Course of the Humours is directed to the external Parts of the Body, and Transpiration excellently promoted.

Besides these internal Medicines for procuring a Derivation of the Humours to other Parts, in Disorders which, under a Salivation, happen in the Mouth and Fauces, Gargarisms may commodiously be used, prepared of purifying and gently astringent Ingredients; the most considerable of which are, the Berries and Leaves of Myrtle, the Flowers of Balaustines and red Roses, the Herbs Mint and Baum; the Bark of Cascarilla, and Mastich, which, when boiled in the Waters of Elder-flowers or Plantain, or in Red-wine, may be frequently injected, by means of a Syringe, in order to wash the Mouth the better: In order to guard against the too great Relaxation of the Gums, and prevent the Loss of the Teeth, nothing is more proper than the Essence of the Terra Japonica, the Tinctura Laccæ Mynsichti, or the Balsam of Life, mixed with the Syrup of Pomgranats, or of Oranges; all which, when frequently applied to the Gums, are of singular Service.

It sometimes happens, that Mercurials, exhibited in order to excite a Salivation, produce violent Pains of the Intestines, in which Case Preparations of the Theriaca are forthwith to be exhibited; such as a few Grains of the Theriaca coelestis, with an Emulsion of sweet Almonds, and half an Ounce of the Syrup of Diacodium. These Emulsions, also, prepared with antispasmodic Waters, and edulcorated with Syrup of white Poppies, are commodiously exhibited, when the Patient is afflicted with preternatural and continual Watching, because, in such a Case, stronger Hypnotics are never safe.

A Salivation may, sometimes, be protracted for thirty-six Days, and longer; after which the Patients ought, in many Cases, to take a proper Dose of Mercurius dulcis every Week; and, for a considerable time, abstain from acrid and pinguious Aliments. And though, after a Salivation, most Persons have keen Appetites, and are ready to devour every thing that comes in their Way, yet they ought to avoid eating too liberally, because they are to be treated like Children; for, as most of the

old Blood was carried off by the Salivation, so benign Blood and Juices are now to be generated; which End is best obtained by a small Quantity of laudable Aliments, duly concocted: By this means, also, a Relapse is prevented. After the Salivation is finished, the Patient ought, also, to change his Garments, because, frequently, the Venereal Fomes, not entirely extinguish'd, lies latent, and is afterwards capable of producing new Disorders; Instances of which are to be seen in *Hildanus, Cent. 5. Observat. 115.* where that Author, among other excellent Cautions necessary to be observed in a Salivation, advises, that, before it is attempted, the Tops of the Bones are to be previously softened, their Caries removed, and the Ulcers, as effectually as possible, are cleansed.

The Venereal Poison easily affects the spongy Bones of the Nose; and, firmly adhering to the Bones of the Palate, violently corrodes these tender Parts; and, by its putrefying Quality, reduces them to Fragments, or small Portions. In which Case, a Mercurial Salivation alone is of little Service; but Injections ought rather to be made into the Nostrils, with a Syringe of such Liquors as resist Putrefaction. And these may be compounded of the Aqua Sclopetaria, the Essences of Amber and Myrrh, *Peruvian* Balsam, and a few Drops of the Oil of Cloves: Which Preparation generally affords singular Relief to these corroded Parts; for, when this loathsome Putrefaction is not sufficiently soon stoppt, the Bones of the Palate are exulcerated, and rendered so carious, that Holes are form'd in them, through which every thing taken into the Mouth, especially Liquors, regurgitate thro' the Nostrils.

Exostoses, and a Caries of the Bones, are not always infallibly cur'd by Mercury; but often more effectually by drinking some Quarts of a Decoction of Guaiacum every Day. That this Method may, at the same time, be seconded by external Remedies, the carious and black Parts of the Bones are first to be abraded, and the Parts affected sprinkled with the Powder of Euphorbium; or, in its stead, Cotton, dipt in a few Drops of the Oil of Guaiacum, Cloves, or genuine Oil of Cinnamon, is to be applied. But, in a latent Caries, 'tis expedient, either by the Knife or Caustics, to divide the putrefying Flesh, which covers the carious Bone, that, by this means, it may not only be exposed to the Eye, but, also, have proper Medicines applied to it.

It frequently happens, that the Texture of the Bones, and especially those of the Legs, are, by the virulent Venereal Humour lodged within them, raised into Tumors, which degenerate into hard Tubercles, productive of intolerable Pain; because, by their means, the highly delicate and sensible Periosteum is ruptur'd. In this Case, the Relief of the Patient is, also, to be attempted by external Medicines, the most powerful of which are the Emplastrum Vigonis cum Mercurio, or the Emplastrum Manus Dei, call'd, also, Miraculosum, heighten'd in their Virtues by the Addition of a proper Quantity of Quicksilver, and terebinthinated Balsam of Sulphur, or Balsam of Juniper. The same Intention is, also, answered by the emollient Plaster of *Agricola*, described in his *Chirurgia Parva*.

Tho' to some it may seem surprising, that the Bones, which are without Sensation, and so firm, that they can scarcely be divided by a Knife, should, in this Disorder, be subjected to so many Misfortunes, such as Tumors, Inflammations, Apostems, and intolerable Pains: Yet, because they are nourished, and grow gradually larger, the fine lymphatic and nutritious Juice must necessarily enter them; so that it is not to be wonder'd at, if they are subject to Putrefaction and Apostems: For, whenever an acrid Ichor is accumulated in the Pores of the Bones, it, by its Acrimony, corrodes them in the same manner that Species of Worm, called the *Teredo*, perforates Wood. This ulcerous State of the Bones *Avicenna* called a Ventosity of the Spine, and said it was produced, when the grosser Part of the putrid Ichor, accumulated in the Cavities of the Bones, became concreted into Tophs and Tubercles, whilst the other more subtle Part of this Ichor, by its Acrimony, corrodes and distends the Bones and their Membranes; and 'tis by means of these Membranes, that the Bones are subjected to so violent Pains, and seem, as it were, to be perforated with a Piercer. The Pains accompanying this Disorder are increased in the Night-time, because, when the Sun is set, the Humours of the Body become more viscid and tenacious. But, by the Heat of the Bed, the acrid, corrosive, and subtil Parts are put into a brisker Motion, so as to vellicate the Membranes, Tendons, and Nerves, and to distend them with a kind of vaporous Flatulency.

Venereal Pustules appearing on the Forehead and Chin, and discharging a Sanies, or a putrid and acrid Ichor, are not, without great Difficulty, removed and consolidated, unless the Venereal Poison is previously subdued, and the Violence of all the Symptoms abated: Nor do they always yield to Liniments, Ointments, and Plaisters. I have, however, seen excellent Effects produced by the Application of a digestive Ointment, prepared of the Yolk of an Egg, Myrrh, and *Ponice* Turpentine, mixed with an equal Quantity of the Balsam of Life.

A virulent Gonorrhœa, or a Fluor albus in Women, are not stoppt by Mercurials. These Disorders, therefore, besides the

Medicines recommended under the Article GONORRHOEA, are greatly relieved by Injections into the Uterus and Urethra. Injections of this Kind may be prepared of a secondary Quick-lime-water, made with Rose or Elder-water, and mixed with the Aqua Scloperaria; to which Preparation, in a Gonorrhœa, a small Quantity of the Sugar of Lead may be added. Nor are Tumors of the Testicles easily cured by a Salivation, unless the Design is, at the same time, promoted by external Medicines; the most common and considerable of which are Fomentations and Vapours of emollient Herbs and Flowers, boiled in Milk, and admitted to the Part affected; as also the Emplastrum Vigonis cum Mercurio.

But there is still another internal Method of Cure, which, when neither mercurial nor sudorific Medicines prove effectual, is of singular Service, not only in curing these Disorders of the Genitals, but, also, in removing other Symptoms of this Disease, such as a putrid Corruption of the squamous Bones, and a Polypus or Ozena, which discharges a malignant Sanies; for these Disorders are so obstinate, that they require a particular Method of Cure, which is to be perfected by Mercurials, in my manner, highly corrected and exalted so as to possess a diaphoretic Quality, which are to be continued for some Weeks, and do not excite an immoderate Salivation. In *Hoffman's Dissertatio de Morbis rebellibus Chronicis sine Salivatione curandis*, a Method is delivered for rendering Mercury diaphoretic, by an intimate Mixture of Gold or Tin; for these two Metals are, in a peculiar Manner, suited and adapted to correct and temperate the penetrating and volatile Nature of Mercury, and that Quality, by which it proves injurious to the nervous Parts, in such a manner that the subtil Particles of the Mercury do not penetrate into the internal Compages of the Membranes, but only, by increasing the systaltic Motion of the Vessels, accelerate the Circulation of the Blood and Lymph; by which means the peccant Humours are conveyed to the Surface of the Body, and eliminated by the Pores of the Skin.

As for the Preparation of diaphoretic Mercury, one Species of it is prepared of an Amalgama of Mercury and Tin, in such a manner, that, after drawing the Aqua-fortis off from it, it may be edulcorated with Water. The other is prepared of a Mixture of Mercury with Gold, and an equal Portion of the Regulus of Antimony; which, after an Abstraction of the Aqua Regia, is to be edulcorated, in the same manner with the former. And with this diaphoretic Mercury, especially that prepared with Gold, the Cure of a Lues Venerea is most successfully carried on in this manner. First, the Body is to be rendered soluble by the Mercurial Pills above prescribed; then, moistening the Body for some Days with a Bath of River-water, prepared with Bran, let one Scruple of this Mercury be Morning and Evening exhibited, for some Days, in Conjunction with diaphoretic Antimony, either in Conserve of Roses, or in the Form of Pills, drinking next Morning a temperate Decoction of the Woods, and using, at the same time, a diaphoretic Regimen. But this Method is safer, if, after the Digestion of the Aliments, about Five or Six o'Clock in the Afternoon, the Patient uses the Bath for a Month; and, at Bed-time, takes this Medicine in the Manner already directed. When these Measures are taken, the diaphoretic Mercury often produces so salutary Effects, that there is no Necessity for other internal Medicines, in order to carry off the Venereal Poison from the Body, provided only the Patient uses a proper Regimen, and drinks a pretty large Quantity of temperate Liquors. *F. Hoffman.*

This Disease is very often contracted by mere external Contact. And the Contagion first affects the Part which was touch'd, whether that Part be covered with the Skin, or only with the Cuticula. Hence, when the Disease is communicated by Kissing, Sucking, or the like, it breaks out upon the Lips or Nipples in small Ulcers; and by the Commerce of an impure Tongue, or infected Saliva, the Gums, Tongue, Palate, Uvula, Tonsillæ, and Fauces, are seized with horrible Abscesses. If the Infection has been received by the genital Parts, there too it produces Ulcers. But here, in this first Stage of the Infection, there is one observable Difference; which is, that if the Part first affected with the Disease be covered with the Skin, suppose the Back of the Penis, an Ulcer formed there will prove very malignant, very difficult of Cure, and, for the most part, there is great Reason to dread the Propagation of such a Contagion thro' the whole Habit, since that Poison which can penetrate and corrode the solid Skin, should seem to possess a very powerful Virulence; whereas, when the Disease makes its first Appearance in those Parts, which are not defended with the Skin, such as the internal Parts of the Pudenda in Women, the Glans Penis, or the internal Surface of the Prepuce, in Men, the Case is (*cæteris par.*) less formidable, because here the Venereal Venom had its Way to make only through a very thin Cuticle.

As often as the Eye can judge of the State of the Part first infected, a red Spot appears, which nearly resembles the first Eruption of the Small-pox, or Measles, or the Bite of a Flea. Here the Patient feels a slight Itching, a troublesome Heat, but scarce any Pain. This Spot rises into a Pustule, which pushing outwards, the scaly Texture of the Epidermis forms a small

Blister, which, if it is filled only with a thin transparent Lymph, after bursting, is generally soon healed, without any farther Mischief. For what deserves our particular Notice is, that in this Case the infecting Corpuscle, mixed with the lymphatic Moisture, as soon as its containing Membrane bursts, is washed out, and often does not leave the least Taint behind it. Hence the Reason appears, why those Blisters, which in the common Chirurgical Language are called CrySTALLINES, are so happily brought to a perfect Cure, without requiring Remedies of any great Moment: For, if we may draw Conclusions from the known Structure of the human Body, it should appear, that, in this Case, the Contagion drunk up by the absorbent Vessels is convey'd by a mere lymphatic Vein into the Cavity of one of the smallest subcutaneous Follicles; where it taints the contained Lymph, and raises a Tubercle, which, upon bursting, entirely discharges a Poison that had no tenacious Matter to lodge in. See CELLULOSA MEMBRANA, and CHANCER.

As often as the Marrow of the Bones is affected with the Contagion, all this oily Fluid becomes in a short time corrupted, and changed into one rancid virulent Mass of Putrefaction. And as here the acrid Poison has no way to discharge itself, as the Vessels here are extremely tender, and all the Fluids merely oleous, it is plain, that, in a short time, whatever is contained within the Bones must be resolved into a cadaverous Putrefaction; and, because of the torpid Motion of the Fluids here, must remain almost in a State of perfect Stagnation. Hence it is scarce in the Power of Medicine to stop the Progress of a Corruption begun here, or to expel or separate the already putrid Mass; for now those Vessels, distributed upon the Periosteum, whose Office it was to convey the vital Fluids into the Cavities of the Bones, are destroy'd, and an entire Stop is put to the Introduction of fresh Liquids, and the Secretion of new Oil; while those Vessels, by which the Oil from the medullary Mass used to be poured into the Interstices of the bony Laminæ, or returned into the Bones of the Periosteum, are, also, consumed; and nothing now but a very fetid rancid Moisture, which spreads a swift Corruption and Contagion all around, sweats through the gaping Pores of the Veins. Hence the rising Lamellæ depart from one another's Contact, and the Substance of the Bones becomes carious. Hence the Periosteum, which in a natural State very closely embraces the Bone, becomes distended, eroded, and the Part is affected with a very acute Pain, especially from Evening till Midnight, in a Gumma, Toph, or Exostosis. And hence the like Destruction is propagated through all the Parts which surround the infected Bone; through which it makes its Progress principally by the means of the Adipose Membrane, whose whole Congeries of Cells are now inflated all the Way to the Cutis, become fungous, degenerate from their sound State, and melt away into fistulous, fetid, ichorous, incurable Ulcers. No Medicine or Management in the World can succeed against this Evil, after it has once reached such a Height. But whenever it happens in any Part of a particular Bone, so that any Quantity of infected medullary Oil lies concealed between the Lamellæ, there the Bone becomes corrupted; and always at this Place the osseous Layers, receding from each other, raise a bony Tumor, which increases by degrees: Whence that Part of the Periosteum, which receives any Vessels from this affected Part of the Bone, is inflamed, stretched, and racked with Pain; and from these Causes, likewise, the Corruption spreads, and Abscesses are scattered thro' the continuous Mazes of the Panniculus adiposus. Sometimes, when these Tumors are opened, and the Bone is laid bare, the sound Vessels lying under the affected Lamellæ push off, and separate the corrupted Part of the Bone, and afterwards, weaving a new Periosteum, the Part is perfectly cured. A Cure is, likewise, performed in the same Manner, if the affected Part be separated from the sound, by scraping, by the actual or potential Caustery. This Evil is not to be cured by any other Art yet known. From what has been said, we may be able clearly to judge, when, and in what Manner, this Contagion, when it has seized on the Bones, may be removed; when, and why, in other Cases, it admits of no Remedy.

You will possibly be surprised to find a Disease, which is accounted so intricate and complex, reduced to so great a Simplicity. This is owing, says *Borhaave*, to the severe Attention, with which I have improved so many Opportunities of examining its Events, both successful and unhappy. I say then, that the only Hope of healing a Bone thus affected depends upon these Conditions, that the Marrow deposited under the Lamellæ be laudable; and that the arterial Vessels be sound, and strong enough to throw off the corrupted Part, in form of a Leaf or Fragment, while the Surface of the Bone is laid bare. In the mean time, all that Art can contribute to the Cure is, by laying the Bone bare, and increasing the Force of the sound Vessels to assist in carrying on the Exfoliation; or to separate, by manual Aid, the perished Laminæ from the sound ones.

And here I must add another Observation of the last Importance; which is, that, as often as the Venereal Acrimony has destroyed the Periosteum of a thin, lamellated Bone, void of Marrow, and whose Vessels are very few and weak, neither Art nor Nature

Nature can save such a Bone; but the spreading Caries will proceed to the Sutures, by which it is joined to the neighbouring Bones; and the corrupted Bone will drop out either altogether, or in Pieces. For as these Bones receive all their Vessels, and their whole Nourishment, immediately from the Periosteum, and as there is scarce a Circulation of Liquids performed thro' their own proper Structure, when the Membrane that wrapt them up, is destroy'd, their slender Texture must of Necessity wither, the Oil in their Cells must become putrid, rancid, and melt down into Caries their osseous Substance. Of this kind are Bones of the Palate, Nose, Vomer, the Ethmoide Bone, the *Ossa Spongiosa* of the Nose, the *Os Unguis*, Planum, and the other Bones which compose the Orbit; as also the Laminæ of the hollow Bone of the superior Maxilla, the slender Apophyses of the Sphenoide Bone, its Cells under the Ehippium, and the inferior Laminæ of the frontal Sinus. It strikes me with inexpressible Grief, says *Boerhaave*, to remember what lamentable Misfortunes of this Kind have happened, even to such as had been managed by the most eminent Physicians of several different Nations, before they put themselves, now beyond the Possibility of being cured, into my Hands. I was well enough acquainted with all the boasted Remedies against these Diseases of the Bones, Salivation, Sweating, Fumigation with Mercury, or Cinnabar, and Mercurial Errhines. I knew, and have administered, every one of them with all the Pains in the World, but to no manner of Purpose: For, when once the inveterate Disease has taken deep Root in the *Membrana Schneideri*, which lines the Mouth, Nose, and Larynx, and has destroy'd it where it invests those slender Bones, not the least Prospect of any favourable Event remains, except by good Luck the bare Bone happens to drop out, leaving the rest sound; but, in the mean time, the utmost Endeavours must be used to keep entire the rest of the Membrane, which is no easy Task, considering the tenacious, mucous, oily Liquor, with which this Membrane is besmeared and filled, the innumerable Rugæ and Sinuses, into which it is folded, together with its being constantly exposed to the external Air. Let such, therefore, as would not willingly boast, what it is not in the Power of Art to perform, be very sparing of their Promises, when they see a plentiful Discharge from the Nose of a filthy, putrid, rancid Ichor; or the back Part of the Fauces, the Uvula, the Tonsils, or the thick Membrane at the anterior Part of the Palate, wasting with Ulcers, which have the Appearance of Bacon. But he who is diligent in the Application of all proper Means, who neglects nothing that can be done, who still, when one Remedy fails, has recourse to another, who exerts his utmost Art to procure a favourable Issue, while, at the same time, he is very wary in his Prognosis, acquits himself to his Patient, keeps himself safe, and may laugh at those loud Boasters, who run themselves aground by their vain Promises.

Let us now consider the Method of curing this Disease, when it is scatter'd thro' the Fat, and when, inviscated in the oily Mass, the prolific Poison propagates its Malignity thro' the Habit. We discover this to be the Case, when, after suspected Embraces, often repeated Gonorrhæas, but more particularly after external Ulcers of the Pudenda, which have been neglected in the Cure, or especially after a seeming Cure has too hastily been performed by the Production of a sudden Crust, by desiccative or escharotic Applications; when after all, or some of these, Spots break out on the Skin, resembling the Small-pox; when small Ulcers break out upon the Lips, Gums, Tongue, Palate, the Uvula, Tonsils, Root of the Tongue, Larynx, Pharynx, or Cavity of the Nose; then it plainly appears, that the Habit is affected with a Pox, and there is not now the least Time to be lost. But when the Middle of the Bones of the Cranium, or of the large round Bones of the Extremities, are seized with such violent Pains, as if their plated Texture were rent asunder, or were about to split; if these Pains begin their Attack after Sunset, proceeding by slow Degrees, till about Midnight they become so intolerable, as to oblige the tortured Patient to quit his Bed, but, towards the Morning, abate spontaneously; then we may be sure the Disease has taken Root in the very Marrow of the Bones. Of this we have the more Certainty, if, afterwards, Tumors, whether soft, slow, obdurate, or staphyloide, or osseous, arise upon the middle Parts of the Bones; and more still, if the soft Parts, which cover these Bones, are so affected with malignant Ulcers, as plainly to discover, that the Medullium is destroy'd; or if the whole Body is here-and-there affected with those frightful, ulcerous Breaches above described.

The Affections of the Marrow in this Disease have been already related; only it must be here observed, that the Diploe of the Bones of the Cranium performs the same Office, and is subject to the same Diseases with the Marrow of the other Bones. Let us, therefore, now consider wherein the genuine Cure of this Disease, when it is arrived at the Stages now described, consists. If I have any Judgment in the Affair, it depends upon this alone, that all the Poison, which lies wrapt up in the Oils of the Body, be expelled even to the smallest Atom; for the least Particle cannot be retained without endangering a Relapse. But here we have two great Difficulties to encounter:

For, first, it is no easy Matter to disengage the virulent Particles from the Embraces of this tenacious, oily Lentor. And, in the second Place, it is equally difficult to drive these Oils out of their Cells, to lead them back into the common Stream, and to drain them out of the Habit. And if all the Oils in the Body are not thoroughly dissolved, and after that entirely discharged, together with the venomous Particles with which they have long been impregnated, it is impossible to root out the inveterate Disease; and, tho' you may seem to have cured it never so often, it will frequently break out again. We must, therefore, look out for a Method, by which all the Fat, Marrow, and every other tenacious Substance, wherein the Poison has found a Nidus, may be resolved into mere Water, so thin and penetrable, as easily to make its Exit by the smallest Excretories. But where shall we find an Instrument sufficient to perform this? We are provided with one in Mercury; for this mineral Fluid, as its specific Gravity is to that of the Blood as 13 to 1, by whatever Ways it be carry'd into the Circulation, will, from the Motion it receives from the Heart and Arteries, act upon the Mass of Blood with a Force proportion'd to its Weight; by which means the Texture of the Blood will be quite destroy'd, the red Spherules resolved, the yellow serous ones comminuted, and every other Series of Globules dashed into their small constituent ones, till the whole Mass is changed into a subtle, putrid, fugitive Lymph. Besides, it is well known, how incredibly minute the Elements of Quicksilver are, and how much more subtle than the serous Globules of the Blood; for its being capable of entering the Pores of the Skin, without suffering any Alteration as to its Virtues, plainly demonstrates, that it is a great deal more penetrating than the larger Particles of the Blood. And if we consider with how much Ease it pervades the most dense of all Bodies, Gold, we may reasonably conclude, that, perhaps, the least Particles of elementary Water itself are not so small as those of this Mineral, though, at the same time, from the Principle of Attraction, with which its Parts are endued, its Globules run into one another's Embraces, and adhere together with a certain Degree of Tenacity. Besides these Properties of this Mineral, it is very little susceptible of Change; and, perhaps, of all known Bodies, is the most void of Acrimony.

Now, all these Qualities judiciously considered, the true mechanical Power appears, by which Mercury is alone effectual, alone sufficient against this Disease. Its Virtues here consist in its melting down all the Fluids into a subtle Water, and dividing the tenacious Oils, so that the whole Mass is so attenuated, as to run off in the Form of Saliva, or a serous Flux by the Intestines, or a violent Discharge by Urine or Sweat. By these means the old Liquids are totally expelled, and if the Loss is not reasonably repaired, by throwing in new Supplies, the Patient, in a short time, dies of a Marasmus. And in managing this Disease, when it is become inveterate, we must not trust to the Power of Mercury, unless, by its means, every Drop of Oil in the Blood has been reduced to Water, discharged, and the Venereal Poison entirely washed out of the Habit, along with the resolved Humours: For, if the least Particle be left behind, no sooner will the Vessels be filled with new Juices, which in those Cases are always more oily than the old ones, then the Disease will break out again. Whence we may conclude, that the Disease is not perfectly cured, unless the Patient be reduced to a Death-like Paleness, and his Habit be quite emaciated; unless, during the Cure, his Food be as void of Fat as possible, and the Course protracted, till all the old Humours have been quite expelled. In short, it is not every one who can manage this Remedy with Success: For if you do not faithfully observe these Rules, and keep your Patient constantly warm, and in a considerable Degree of Heat too; and if, for a Month or two after the Cure, you do not take care, that he abstain from all such Food as is oily, and prone to Putrefaction, you will find, to your sad Experience, that you have in vain fatigued him with the Hardships of a cruel Remedy; since there will almost infallibly remain some Taint to rouse the Disease again, and give it new Vigour. A great many Things might be brought to illustrate what I have said, but that is not my present Purpose: Only, I shall subjoin one Observation, the Truth of which I have too much Reason to know. It is this: That Mercury cures only as it is actuated by the *Vis Vitæ*, and expels the Venereal Poison no other way, than as itself is put into Motion, so that its medicinal Virtue is not able to correct this Virulence, when possess'd of a Place that lies in a manner beyond the Reach of the vital Impulse. Hence a Caries of the Diploe of the Cranium is not to be cured by Mercury, which in such Cases runs out into the bony Cells now emptied of their Oil, and lies there an inactive Mass. Hence too, it is, that it can scarcely correct the Marrow of the Bones infected with this Poison; nor ever cures such a Gonorrhœa, as has its Seat only in the cellular Substance of the Penis, upon whose Vessels the circulating Fluids have hardly any Momentum, tho' at the same time, if a Pox has got into the Habit, it will entirely remove it. Neither, as I have already said, can Mercury save from Destruction those tender Bones which have no other Covering, than a subtle Membrane. I have seen all these miserable Cases, and have found how little Help Mercury affords against them.

them. But it proves a perfect Remedy for those Venereal Disorders that reside in Parts where the red Blood, Serum, Lymph, and other Fluids, are hurry'd thro' their proper Vessels, with a sufficient Velocity, where those Vessels are at the same time wide enough to admit the Particles of this Mineral, and strong enough to continue its Action with a due Force. Hence the Physician may learn when to be confident of his Art, when to distrust it with Reason.

But when such a Part is affected, as Mercury cannot operate upon, must we resign the Patient to his ill Fate? By no means. And is there a Medicine from which we may hope Success, when Mercury fails? There is. If the Poison is never so intimately blended with our Fluids, it may be washed out by the acrid Lixivium of Guaiacum. This Medicine performs that Task, by resolving all the unctuous Particles, whether incorporated in the common Mass of Blood, or accumulated in their proper Repositories, and by emaciating the Habit so exquisitely, that not the least Drop of Oil remains in it. Hence this has acquired the Name of the *Desiccative Method of Cure*. In order to the right Administration of which, the Patient must be shut up in a Room so warm, as, by its mere Heat, to incline him to sweating. He must, during the whole Course, abstain from all Food, and Drink which has the least Oiliness in its Nature; tasting no other Food, than Biscuit and Raisins, nor Drink, except a somewhat weaker Decoction of Guaiacum. In the mean while, let him, four times a Day, drink as much as he is able, of a very strong Decoction of this Wood. I would have him, at every Draught, swallow down at least eight Ounces; if he takes more, so much the better. After he has thus continued drinking for some Days, and his Habit is now so saturated with this Liquor, that it is almost bloated into a Dropsy, you must now consider the Body as quite turgid with a Liquor of such a penetrating Acrimony, and acute balsamic-Virtue, as dissolves all the pituitous, dilutes all the oily, attenuates all the tenacious Fluids, and preserves from further Corruption, whatever is grown putrid. Besides, by this time, the depraved Humours have been gently macerated in this medicated Liquor. And now it remains, that it be put into a violent Motion, and hurry'd through the whole vascular System with so much Velocity, as to wash, deterge, and cleanse, the inmost Recesses of the Body, that the tainted Oils may be entirely thrown out, and, consequently, by the continued Discharge, the Fomes of the Disease may be expelled. For this Purpose, let the Patient now, every Morning fasting, swallow down as much of this Decoction as his Stomach can hold; then let him place himself in an erect Posture in a Sweating-box, or if he lies in Bed, let a Stove be put under it. In either of these Places, he must receive upon his naked Body the Steams of kindled Spirit of Wine, and there let him sweat as long, and as plentifully, as his Strength will allow. After he has suffered this Heat for half an Hour, which is almost the utmost Space to which this Process ought to be protracted, let the Flame be extinguished, and the Patient sweat in his Bed for about an Hour longer. After which, let him take eight or ten Ounces of hot Veal Broth, boiled with a small Quantity of Rice, but void of all Fat: His Body must now be carefully wiped with warm dry Flannel Cloths; which done, let him rise, and drink of his Decoction, as formerly, throughout the Day. In this manner, to every Article, must this Process be repeated both Morning and Evening, for fourteen Days successively: After this, let it be repeated in the Morning only, for fourteen Days more. In the mean time, whilst the Sweating is thus violently promoted, if there is any particular Part of a Bone touched with the Disease, it must be wrapt up in Cloths dipt in a very strong Decoction of Guaiacum, and apply'd very warm; and, while the Sweating proceeds, the Steams of the Spirits must be so directed, as to strike principally upon that Part. By this Method, the most intimate Recesses of the Bones, and all the most inaccessible Parts, even those which the Power of Mercury could not reach, are thoroughly rinsed. I remember, I once saw a young Gentleman deeply affected to the very Bones with this Disease, who by this Management sweat so violently, that in the Height of the Discharge the Sweat, tinged by the Decoction with a greenish Cast, heaved up, and separated the loosen'd Eschars of the Ulcers. I reflect with Pleasure on the Success with which I used this Method upon that Patient, whose Bones were in some Places so much corrupted, that an entire Joint of one of his Fingers dropt off; and one of his Shin-bones appeared carious in several Places. By this Method exactly pursued, the small Bones of the Nose, and Pieces of the Palate-bones, were separated, and left the rest entire. In short, he was perfectly cured, and lives to this Day a very sound Person, and the Father of a Family.

But as Salivation, and these Decoctions, are the usual Refuges in such Extremities, I have constantly found, as often as I have had an Opportunity to make the Observation, that the sweating Method may be very happily pursued after a Salivation; but that, if, after the Mass of Fluids has, by means of this Liquor, been so thoroughly dissolved, as is requisite to a Cure, you attempt a Salivation, it is always to very little Purpose. In this Case, in whatever Manner, and to whatever Quantity, you administer Mercury, you will not be able to procure a Salivation. After frequent

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Trials of this, I am at last convinced, that as Quicksilver, according to what I have already observed, is a Body entirely void of Acrimony, it does not at all act upon the Humours, after they are attenuated to so great a Degree, but slips off without having done any Service, and almost without having made the least Impression upon the Blood. *Boerhaave's Preface to the APHRODISIACA.*

Some Years ago, Mr. *Chicoyneau*, a Physician at that time residing at *Montpelier*, proposed a Method of curing the Venereal Disease by Mercurial Unctions, apply'd at Intervals, in such a manner as not to excite a Salivation; and gave several Instances of the Success with which this Method was attended. This Attempt, however laudable, attracted the ill Will of most of those who found their Account in a tedious and expensive Salivation, and were more solicitous about their own private Interests, than the Welfare and Convenience of their Patients. Accordingly, he was attack'd by some, with a Shew of Gravity; whilst others assum'd the *faux Plaisant*, and expos'd their bad Hearts, or weak Understandings, by a Buffoonry, always unseasonable, when substituted for Reasons, and the Evidence of Facts.

Mr. *Pierre Desault*, a Physician of *Bordeaux*, afterwards made some Improvements on the Method recommended by Mr. *Chicoyneau*. And the late Mr. *John Douglas* adopted *Desault's* Practice, and pursu'd it for many Years with great Success.

As I can affirm, on my own Knowledge, that it succeeds at least as well as a Salivation, in most Cases, I think myself obliged to take notice of what *Desault* informs us on this Subject.

DESAULT'S METHOD OF CURING A GONORRHOEA.

From the first Day that I am sent for, I make the Patients rub the Yard, and principally the Canal of the Urethra, the Groin, and neighbouring Parts, or the Pudenda of Women, with an Ointment of one Part Mercury, and three of Axungia. I make them use two or three Drams of this Ointment, rubbing themselves from the Anus, all along the Canal to the Glans and Prepuce. The following Day I purge the Patient vigorously with Jalap, from two Scruples to a Dram, according to his Constitution. I make him use for his Diet-drink, Spring-water, in which has been boiled Mercury revived from Cinnabar. This Method I continue several Days; but, if the Patient finds himself too much fatigued, I interpose a Day or two, with respect to the Purgings; but I continue the Mercurial Friction every Night, with the aforesaid Apozem for his constant Drink.

Though the Patient be afflicted with a Cordee, can make no Water without exquisite Pain, and be cruelly tormented by nocturnal Erections; yet the first Friction relieves him considerably, the second yet more, and the third commonly removes the Pain; and I have met with none, whom the fourth or fifth Friction has not entirely eased. By this Method, also, the Quantity of the Discharge is lessened, the Matter changes Colour, and becomes more fluid, oily, clear, and ropy, which are all very favourable Symptoms; and thus the Running either ceases spontaneously, or by the Continuance of these Remedies, so that Injections and Astringents, which are often dangerous, become here unnecessary.

Sometimes, indeed, the Patient is flattered, that the small Running, which continues long, and appears like a Pearl in the Morning, upon squeezing the Canal of the Urethra, is only a Weakness of the seminal Vessels; and that nothing is required to stop it, but Astringents. I have observed, after *Sydenham*, that this is a Remainder of the Disorder not quite cured; and, after stopping it with Astringents, Tetters, and Venereal Ulcers, have appeared in several Parts of the Body.

Such ought to observe a strict Regimen, and abstain from Wine, Salt, Spices, and whatever is high-seasoned; above all, they ought to avoid the Company of the Fair Sex, either for Venereal Intercourse, or private Conversation; it being of the last Importance to leave the diseased Parts at Rest, and not to injure them by exciting Motions repugnant to the Cure.

The Running being entirely stopped, and all the Symptoms removed, I make them commonly take, for some Days, a Bason of Milk every Morning, to restore that Balsam, which the Blood may have lost by frequent purging.

The Venereal Buboes in the Groin, which are often accompanied with a Gonorrhœa, Phymosis, and Paraphymosis, are cur'd the same way, provided there is no Pus formed in the Swellings; for, in that Case, it is impossible to avoid opening them.

I order the Patients to shave off the Hair, and increase the Quantity of the Ointment to half an Ounce; I make them rub the Groin, and the Testicles, and, also, the Pudenda of either Sex. I purge every Day, making use of the Mercurial Water; and take great Care to repeat every Night those Frictions, and to extend them to the neighbouring Parts, continuing them, and the Purgings, a long time. By these three Remedies, I find the Buboes disengage, the Phymosis, Paraphymosis, and Chancres, disappear; and the Patients recover their former Health.

This Method is a thousand times preferable to repeated Applications of Cupping-glasses upon Buboes, inducing painful Incisions for laying them open, and a copious Suppuration, which has been reckoned a Crisis of the Pox.

By this Method, also, the Destruction of the inguinal Glands is prevented; for either they are destroy'd by Suppuration, or deprived of their Use by deep Scars remaining after their Opening.

When the Tumors in the Groin are much inflamed, or when the Tumor is situated in one or both Testicles, attended with Pain and Pulsation, and threatening Suppuration, I bleed the Patient copiously, and repeat it according to the Age of the Person, till the Inflammation begins to recede; and I have speedy recourse to Frictions.

The Dose of the Ointment ought to be proportioned to the Number and Greatness of the Complaints. I am not satisfy'd with applying it only to the Parts affected; I rub it in upon the neighbouring Places, and inner Parts of the Thighs, in proportion to the Degree of the Disorder; and I prescribe from six Drams to an Ounce of the Ointment.

DESAULT'S METHOD OF CURING THE POX.

When the Patients have a Pox of long Continuance, and the Venereal Poison is dispersed all over the Body, they should be prepared by bathing, and drinking Whey. But, in a recent Pox, when the Patients are full of Juice, the Bath is not necessary, or, at least, need not be used long, because the Blood is sufficiently diluted. If the Patient is reduced to great Weakness, and is unable to undergo these preliminary Preparations, we are oblig'd to have immediate recourse to the Frictions.

After this, instead of raising a Salivation, I bring on a Flux of the Belly, changing nothing of the antient Method, but the Place of Evacuation; and, instead of a painful fetid Flux of the Mouth, substitute Purging, without any Fatigue, Pain, or Danger.

The whole Secret consists in keeping the Patient's Body open by Clysters of Decoction of Sena, and the Pulp of Cassia, before the Frictions are administered. By this Precaution it happens, that the Mercury finding the intestinal Glands relaxed, and the Body open, its Evacuation tends that way more readily, as the Place where it finds the least Resistance. When I find the Looseness does not answer the Number of the Frictions, nor the Quantity of Mercury I employ'd, I purge the Patient with Powder of Jalap, and procure copious Stools, which secure the Mouth. While the Looseness is going on, a Friction does the Office of a Purge; and in proportion, as they are reiterated, so the Flux of the Belly revives; and, when it slackens or stops, I have recourse to Clysters, and Purges of Jalap. In this Method I proceed, till by the Cessation of the Symptoms, by the Quantity of Mercury I have employ'd, and the Abundance of the Evacuations, I am thoroughly persuaded, that the Venereal Taint is entirely drain'd off, and that the Serum of the Blood is chang'd, and has made room for new Juices.

WHY THIS METHOD IS MORE SAFE AND CONVENIENT THAN THE OLD ONE.

1. By urging a Salivation, the Pain has often brought Patients to the last Extremity; the Swelling of the salival Glands, of the Tongue, Muscles of the Fauces, and their Inflammation sometimes communicated to the Larynx, have rendered the Patient incapable of Deglutition, or Breathing, so that by Loss of Strength, Want of Sustainance, and Obstruction of Respiration, many have perished. But in carrying off the Evacuations by Stool, the Intestines being appropriated to receive and expel the Impurities of them, and capable of containing them in a capacious Canal, always open, they give less Uneasiness than at the Mouth, which was not designed for any such Evacuation, or to serve for a common Drain.

2. Is it not, therefore, more eligible to remove by five or six copious Stools in an Hour, and without Pain, that which could not have been evacuated by the salival Glands in less than a Day, and with exquisite Torment? I have often reflected, that the violent Pain seem'd to be a convincing Proof, that the Discharge by Salivation was a Violence done to Nature.

3. By the Flux of the Belly, not only the Patient's Safety and Ease are continued, but the Teeth are preserved; which, by Salivation, sometimes fall out, are loosened, and almost always grow black, and the Gums wear away.

4. By this Method, the deep Scars, succeeding the Ulcers occasioned by Salivation, are avoided; these Scars sometimes form strong Seams, hindering the Opening of the Mouth, and must sometimes be cut after the Courte.

5. There is no Danger of leaving a perpetual Salivation, which is occasioned by tearing asunder the excretory Canals of the salival Glands, and is sometimes incurable.

6. The Patient needs not be confined to his Chamber above twenty-five or thirty Days, and may even go abroad in fair Weather: Besides his Mouth being sound, he may eat as he pleases, and recruit his Spirits. But, after Salivation, a long Time is required to cure the Sensibility of the Mouth and Tongue.

7. The Expences of this Method are less, nothing but common Food being required, and no Linen spoiled.

8. The Reputation of the Patient is saved; for he may do Business, and receive Visits, in his own House, without raising any Suspicion.

PROOFS THAT THERE IS MORE ASSURANCE OF A PERFECT CURE IN THIS METHOD THAN THE OTHER.

1. Almost all Authors agree, that Patients have been cured of the Pox, without Salivation, by a Diarrhoea only, occasion'd by the Frictions; although all Remedies to stop the Diarrhoea, and raise the Salivation, have been in vain. If, then, we can be certain of a Cure, when the Evacuation happens by Stool, why should we not invite them that Way, as we have already proved it more convenient than the other?

2. The salival and intestinal Glands are of the same Structure, and must therefore have the same Use, separate the same sort of Lymph, and, consequently, it must be equal, in this respect, whether the Evacuation be made upwards or downwards. Besides, in a Salivation, the Broth, or Pus, swallowed by the Patient, mixes with Part of the Venom filtered through the salival Glands; and thus the Venom is returned into the Blood.

3. What invincibly proves, that the Lymph coming from the salival Glands is of the same Nature with that of the Intestines, is, that, as soon as the Looseness ceases, the salival Glands swell; and, when the Looseness returns, the salival Glands decrease: Since, therefore, these Evacuations increase and diminish at the Expence of each other, they must undoubtedly be supplied with the same Matter; and therefore it is not material, with regard to the Efficacy of the Cure, which Way the Evacuation be made.

4. But we may conclude, that the Evacuation by Stool is more efficacious, because the intestinal Glands are vastly more numerous than the salival. Besides, only two small Ramifications of an Artery belong to the salival Glands; but the arterial Branches, which supply the Intestines, are of so considerable a Size, and convey a Quantity of Blood, which seems too copious for the Nourishment of the thin and fine Substance of the Intestines. Nature must, therefore, have designed, that this Blood should receive some Depuration in the numerous Glands of the Intestines; an Intention which cannot be supposed to appertain to the small Arteries of the salival Glands. When, therefore, a general Depuration is designed, the small arterial Ramifications of the salival Glands cannot reasonably be preferred to the considerable Tubes in the Intestines; especially as Nature herself indicates, by the abundant Stools after the first Frictions, her Tendency to that sort of Evacuation.

5. Those who endeavour to stop the Diarrhoea after the first Frictions, and to force the Evacuation upwards, directly oppose the Advice of *Hippocrates*, who advises, "To act agreeably to the Inclinations of Nature, and to chuse those Emunctories which seem most commodious to her." Now what Passage can be more convenient, than a large Canal always open, placed in the Middle of the Body, like a Sewer, for the Reception of all Impurities; a Passage which occasions no Uneasiness nor Danger, nor interrupts Mastication, Deglutition, and Digestion; Functions which are overthrown by Salivation?

6. This Method of purging is much more efficacious in Poxes accompanied with habitual Gonorrhoeas, than that of Salivation: For by the Diarrhoea I at once carry off both the Pox, and Gonorrhoea; but *Sydenham* observes, and his Observation is confirmed by Experience, that no Degree of Salivation can cure a Gonorrhoea, in which, as the same Author assures us, Purging does every thing.

7. When the Patient is extremely emaciated, the Diarrhoea is much safer, than a Salivation; because, during the Purging, he can take Nourishment, sleep, and recruit his Strength; the Purging, also, can be more easily moderated, than the Salivation.

8. When the Palate, Throat, Uvula, and the neighbouring Parts, are ulcerated, many bad Consequences may be produced by forcing the Humours to the Parts affected; and the Patient may even be suffocated, or much disfigured.

9. Some eminent Authors assure us, that the Effects of Purging are safe and salutary, in almost all Diseases. Nor can it be supposed to fail in the Pox only, since the Advantages of it in the Gonorrhoea are manifest, which differs from the Pox only in Degree.

OBJECTIONS TO THIS METHOD ANSWERED.

1. It is to be feared, that the Venereal Poison, joined with the Mercury, and brought to the Intestines, will exulcerate them, as it does the Mouth; and occasion griping and bloody Stools, which might prove mortal.

But this Objection is groundless: 1. Because the internal Surface of the Intestines is lined with a Mucus, which defends them against the Acrimony of the Bile, and other Humours, and facilitates the Descent of the Excrements: This Mucus, also, secures them against the Impressions, either of the Mercury, or of the Virulence it brings along with it; and the Want of this Mucus in the Mouth suffers the Mercury to produce those violent Exulcerations there. 2. The Canal of the Intestines is long, wide, and always open, and their Contents pass quickly through them; but, in the Mouth, Discharges go off gently, and lasting and violent Impressions are made. 3. Experience proves, that this Case never happens in the Method by Purging.

A. Sydenham

2. *Sydenham* regards the Looseness which happens after the first Frictions, as an Obstacle to the Cure, and advises to stop it. *Sydenham* indeed perceived, that a Looseness was an absolute Hindrance to a Salivation, which, he imagined, was the only Remedy for the Pox. But if this celebrated Author had been convinced, that this Distemper could have been effectually cured by a Diarrhoea, it may be believed, from his known Integrity, that he would have altered his Opinion.

3. By throwing the Mercury off by Stool it is render'd useless, because no Time is allowed it to circulate with the Mass of Blood.

This Objection is equally strong against Salivation, by which, also, the Mercury runs off. By the Method of Purging we may throw in as much Mercury as we please, and abundantly replace what is discharged by Stool with a fresh Supply: Thus I have used twenty-four Ounces of Ointment in twenty-four Frictions; a Quantity which must by no means be used in a Salivation, it being limited by *Lemery* to five.

4. Some prefer the Method of making Mercury act by Extinction, by administering Frictions at such Intervals as may prevent a Salivation, and produce no kind of Evacuation.

But Experience convinces us, that Mercury, exhibited in this manner, does not always succeed, tho' I have seen good Effects produced by it.

LUFFA *Arabum*. A Name for the *Cucumis*; *Aegyptius*; *reticulatus*.

The reticular Substance which contains the Pulp, is used at the public Baths in *Egypt*, for rubbing the Skin, when affected with Morpew, or leprous Disorders. *Prosp. Alpin. de Plant. Aegypt. Cap. 34.*

LUFULA See **ACTOSELLA**.

LUMBAGO. A violent Pain in the Loins, which affects the Patient in such a manner, that he can scarcely move. It is generally said to be a scorbutic Symptom. See **SCORBUTUS**. But it is frequently excited by the Gout, or Rheumatism. See **RHEUMATISMUS**.

LUMBARIS INTERNUS. A Name for the Muscle more commonly call'd *PSOAS*; which see.

LUMBI. The Loins. See **ABDOMEN**.

LUMBRICALES MUSCULI.

The Name of some Muscles which move the Fingers, and of others which move the Toes.

Those which move the Fingers, are also called *Flexores primi Internodii Digitorum manus*.

They are four very small slender Muscles, lying in the Hollow of the Hand, in the same Direction with the *Perforatus*, or *Perforans*.

They are fixed by their fleshy Bodies to the Tendons of the *Perforatus*, on the Side next the Thumb, near the large annular Ligament of the Carpus. Near the Heads of the metacarpal Bones, they become very thin Tendons, which accompany those of the *Perforans* through the Furcæ of the *Aponeurosis Palmaris*. Then they pass on to the same Sides of the first Phalanges, and join the Tendons of the *Extensor communis*, each of them being connected with the nearest Portion thereof, at the Articulation of the first Phalanx with the second.

These Tendons are also united to some of the *Interossei*, and their Insertions seem to vary in different Subjects; for tho' they lie generally on that Side of the Fingers, which is next the Thumb, yet, if I am not mistaken, I have observed the first inserted in the Index on the Side next the Thumb, the second and third on each Side the middle Finger, and the fourth in that Side of the Ring Finger, which is farthest from the Thumb.

The *Lumbricales*, by the Union of their Tendons with those of the *Interossei*, are Coadjutors to these Muscles, not only in the lateral Motions of the four Fingers, but also in bending and extending them. In the lateral Motions, they co-operate according to their Situation in each Subject; and it is possible, that the Variety of their Insertions answers to that of the *Interossei*, so that the reciprocal Co-operation continues still to be equal.

They assist the great common Flexor to which they are fixed, only in bending the first Phalanges; which Motion that Muscle principally performs, by means of the ligamentary *Vaginae*, especially that Portion of them which is next the Metacarpus.

They may assist the *Extensor communis*, in extending the third Phalanges, together with the *Interossei*, by the Concurrence of their Tendons. But here the Variety of their Insertions is also to be regarded; and, in some Subjects, the want of them in that Side of the Index next the Thumb, and Side of the little Finger, farthest from the Thumb, may be supply'd by the proper Extensors of these Fingers.

Those which move the Toes, are also called, *Flexores primi Internodii Digitorum Pedis*.

They are four small Muscles, situated more or less longitudinally under the Sole of the Foot.

They are fixed by their fleshy Extremities to the four Tendons of the *Flexor Digitorum longus*, near the Insertion of the *Flexor accessorius*. The first Muscle is fixed to the Inside of the first Tendon; the second, to the tendinous Fork formed by the two

first Tendons; the third, to the tendinous Fork made by the second and third Tendons; and the fourth, in the same manner, to the third and fourth Tendons, but commonly most to the third.

From thence these four Muscles run to the Toes, and there terminate in the same Number of small Tendons which are inserted in the first Phalanges of the Toes, much after the same manner as in the Hand. They are termed *Lumbricales*, or *Vermiculares*, because of the Resemblance they bear to Worms. *Winflow's Anatomy*.

The *Lumbricales* have nearly the same Functions in the Foot, as in the Hand; and they are partly assisted, and partly directed, by the *Flexor accessorius*. *Winflow's Anatomy*.

LUMBRICUS TERRESTRIS, *Vermis terrestris*. *Offic. Lumbricus terrestris*. *Jonst. Insect. 137. Ind. Med. 69. Aldrov. de Insect. 693. Charlt. Exer. 59. Mouff. Insect. 278. Raii Hist. Insect. 1. Lumbricus terrenus. Schrod. 5. 343. Vermes terrestres majores. Mer. Pin. 206. THE EARTH-WORM.*

It is an hermaphroditic, long Animal, without Legs, of the Thickness of a Goose-quill, soft, carnos, and annulated, of a faint Blood-colour, with a red Neck, living under Ground, of an earthy Taste, and no Smell.

Earth-worms are remarkably diuretic, diaphoretic, and anodyne; they discur, mollify, open Obstructions, increase Milk, and conglutinate Wounds, and divided Nerves. They are principally used in Apoplexies, Convulsions, and other Affections of the Nerves and Muscles, in the Jaundice, Dropsy, and Colic, and have a specific Virtue against the scorbutic Gout: They mitigate Pains of the Gout, and their Ashes are said to cure the Tooth-ach. *Schroder*.

Earth-worms are often used in Compositions for cooling and cleansing the Viscera. They are accounted much of the same Nature as Snails; but they seem to have more of an earthy or nitrous Salt, which makes them afford Parts more penetrating and deterlive. They are good in Inflammations and Tubercles of the Lungs; and are particularly useful in such Affections of the Reins, and urinary Passages, which they cool and cleanse very much. The compound Water, which has its Name from them in the Shops, is a very good Medicine in the above-mentioned Cases. They are seldom omitted in the occasional Prescriptions of Snail-waters, and make a very good Ingredient therein, having much more in them, that will rise in the Still, than Snails. There is, also, an Oil made of them in the Shops, which retains as much of the Virtue as any such Preparations are capable of; yet it does not answer the Pretensions of many in arthritic Pains, and is not much in Use. It is prepared in the following manner:

Take of Earth-worms, half a Pound: First, wash them in several Waters, and then in White-wine, wherein let them stand an Hour; then, pouring off the Wine, put them into a double Vessel; and add to them two Pounds of Oil, and half a Pint of White-wine. Boil to the Consumption of all the Wine, and strain the Oil through a Linen Cloth, for Use. See **VERMES**.

LUNA. See **ARGENTUM**.

LUNARIA.

The Characters are;

The Fruit is flat, of a reasonable Bigness, and divided by an Intercloture, parallel to membranaceous Valves, as it were, into two Cells, full of Seeds, which are generally kidney-shaped, and, as it were, marginated.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Lunaria*; major; siliqua longiore. *J. B. 882. Tourn. Inst. 218. Boerb. Ind. A. 2. 5. Viola Lunaria. Offic. Viola Lunaria longioribus siliquis. Ger. 378. Emac. 464. Raii Hist. 1. 788. Viola lunaris altera, sive peregrina. Park. Parad. 265. Viola Lunaria major siliqua oblonga. C. B. P. 203. SAT-TIN-FLOWER WITH LONGER PODS.*

It grows on the Mountains of *Saleva* and *Jura*, near *Geneva*, and flowers in *May*. A certain *Swiss* Surgeon, as *Camerarius* says, prepared a good vulnerary Ointment of the bruised Leaves of this Herb, and Sanicle. *Raii Hist. Plant.*

2. *Lunaria*; major; siliqua rotundiore. See **BULBONACH**.

3. *Lunaria*; major, perennis; siliqua rotundiori; flore albo. *T. 218. Viola Lunaria, major, altera C. B. P. 203.*

4. *Lunaria*; major; siliqua longiore; flore purpureo. *T. 218. Viola lunaris. II. Tabern. Ic. 314.*

5. *Lunaria*; Leucoli folio; siliqua oblonga, majori. *T. 218. Leucolum, Alyssoides, clypeatum majus. C. B. P. 201. Alysson siliqua lata, aspera, quibusdam Lunaria, flore luteo. J. B. 2. 934.*

6. *Lunaria*; siliqua; oblonga, intorta. *T. 219.*

7. *Lunaria*; Orientalis; Leucoli folio incano; lutea patula. *Juss.*

8. *Lunaria*; folio Leucoli; siliqua oblonga, minori. *T. 218. Leucolum, Alyssoides, clypeatum minus. C. B. P. 201.*

9. *Lunaria*; annua; minima; Hispanica; folio Leucoli maritimi. *Jussieu.*

10. *Lunaria*;

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10. *Lunaria*; folio *Leucoii*; siliqua oblonga, majore, ex alis foliorum erumpente. *Vaill.*

11. *Lunaria*; perennis; lutea; folio *Leucoii*; ramis expansis. *Vaill. Boerb. Ind. alt. Plant. Vol. 2. p. 5.*

LUNARIA BISCUTATA. A Name for the *Thlaspidium*; *Monspeliense*; *hieracii folio hirsuto.*

LUNARIA BOTRYTIS. A Name for the *Osmunda*; *foliis lunatis.*

LUNARIA PELTATA. A Name for the *Ionthlaspi*; *minimum*; *spicatum*; *lunatum.*

LUNARIA RADIATA. A Name for the *Medicago*; *annua*; *trifolii facie.* And for the *Pelecinus vulgaris.*

LUNARIA, in Chymistry, is explained Mercurial Water, Vinegar of the Philosophers, Corrosive Water, and Sputum Lunæ. It imports the same as *BORIZA.*

LUNÆTRIA, in the chymical Jargon, is a Species of hectic Fever, which is curable in one Period of the Moon. *Castellus* from *Dolens.*

LUNATICUS. A Lunatic is, properly, a Person labouring under any Distemper, which increases and diminishes, or seizes and goes off again, at different times of the Moon. It generally signifies a mad Person, whose Disorder is, in this manner, govern'd by the Moon.

LUNIFICUS. An Epithet for Mercury.

LUPARIA. A Name for the *ACONITUM PONTICUM.*

LUPIA. The *Assyrian* Name for the *ARUM. Oribas. Coll. Med. Lib. 11.*

LUPIA. A kind of hard glandiform Tumor, like a Ganglion, in many Parts of the Body. When Authors describe a Tumor, by this Name, seated within the Eyelid, they seem to mean a *CHALAZA.* A round, small, soft Tumor about the Joints, is, also, called *Lupia.*

LUPINUS.

The Characters are;

The Pod is full of Seeds, either flat or spherical; and the Leaves are shaped like a Fan, or digitated.

Boerhaave mentions seven Species of this Plant; which are,

1. *Lupinus peregrinus major*; vel *villosus cæruleus major.* *C. B. P. 348. M. H. 2. 85.*

2. *Lupinus*; *sylvestris flore cæruleo.* *C. B. P. 348. Boerb. Ind. A. 2. 48. Lupinus sylvestris. Offic. Lupinus flore cæruleo. Ger. 1043. Emac. 1217. Lupinus cæruleus minor. Park. Parad. 335. Raii Hist. 1. 907. Lupinus sylvestris purpureo flore, semine rotundo vario. J. B. 2. 291. Lupinus sylvestris purpureo flore; semine rotundo, vario, majore. Tourn. Inst. 392. WILD LUPINES.*

This is cultivated with us in Gardens, and flowers in *July.* The Parts in Use are the compressed, variegated, round, and flat Seeds, which agree in Virtues with those of the common Garden-lupines.

3. *Lupinus*; *peregrinus major*; *flore incarnato.*

4. *Lupinus*; *fativus, flore albo.* *C. B. P. 347. Tourn. Inst. 392. Boerb. Ind. A. 2. 49. Lupinus. Offic. Lupinus fativus. Ger. 1043. Emac. 1217. Raii Hist. 1. 906. Lupinus fativus albus. Park. Theat. 1073. Lupinus vulgaris, semine & flore albo, fativus. J. B. 2. 288. LUPINES.*

The white Lupine has a round hairy Stalk, on which grow many digitated Leaves, set in a round Compass upon long Foot-stalks, consisting usually of nine Parts, narrow next the Stalk, and ending in an obtuse Point, soft and hairy, especially underneath. The Flowers grow in verticillated Spikes, on the Top of the Branches, in the Shape of Pea-blossoms, of a white Colour; and are succeeded by upright, flat, hairy, large Pods, including three or four flat white Seeds. They are sown every Year in Gardens, and flower in *June*, and the Seed is ripe in *July*, which is the only Part in Use.

Lupines are of a somewhat bitter Taste, opening and cleansing, good to destroy Worms, to bring down the Menfes, and expel the Birth and Secundines. Outwardly, they are used against Deformities of the Skin, scabby Ulcers, scald Heads, and other cutaneous Distempers. *Miller's Bot. Off.*

They sow Lupines in *Tuscany*, as *Matthioli*, and I myself, says *Ray*, have observed, not only for Aliment, but to fatten the Soil. And *Pliny* tells us, that the Fields and Vineyards are enriched by the sowing of Lupines, as much as by the best Kind of Dung.

The Seed, macerated in fresh warm Water, loses its Bitterness, so that it is rendered grateful to the Palate, and may be eaten without any other Dressing. *Galen* writes, that the Seeds are eaten, boiled with Garum and Oxygarum; or only season'd with a little Salt: But that they generate an Aliment of a thick Juice, and slow of Passage. While their native Bitterness remains, they have a detergent and digestive Virtue, and destroy Worms, whether applied outwardly as a Cataplasm, or taken inwardly, as an Eclegma with Honey, or drank in Posca; the Decoction, also, is effectual for the same Purpose. Externally used, they are esteemed an Emplastic; whence their Decoction in Pomentations, and their Meal in Cataplasms, are effectual against the Vitiligo, Achores, Pustules, Pison, Gangrene, and malignant Ulcers, partly as a Deterfive, and partly as a Digestive without Corrosiveness. Some apply the Meal, with Vinegar, to the Sciatika: And the same, made into a Pessary with Myrrh and Ho-

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ney, provokes the Menfes, and expels the dead Fœtus. What *Theophrastus* says, that no Animals will eat of green Lupines because of their Bitterness, must be understood of the Fruit; for they are now commonly sown among Turneps, for the feeding of Cattle, as we are told by *J. Baubine. Raii Hist. Plant.*

The Name *Lupinus* is of great Antiquity; and the Seeds are said to have been used by the Antients, in Plays and Comedies, instead of Pieces of Money: Hence the Proverb *Nummus Lupinus*, that is, a Piece of Money of no Value; and hence that of *Horace*:

Nec tamen ignorat, quid distent Æra Lupinis.

The Seeds, ground to a Meal, afford a nutritive sort of Food, This Meal is emollient, nutritive, and anodyne; but, internally taken, it binds the Belly too much; for which Reason it is exhibited in the worst Dysenteries, being mixed with a little Mucilage. The Seeds agree in Virtues with the Orobis; and, by their Bitterness, expel Worms: Boiled, they are of Service in the Scabies and Ulcers; and are a principal Cosmetic. *Historia Plantarum*, ascribed to *Boerhaave.*

5. *Lupinus*; *Indicus*; folio angustissimo.

6. *Lupinus*; *sylvestris, flore luteo.* *C. B. P. 348.*

7. *Lupinus*; *exoticus*; flore albo. *H. Eyf. Æst. o. 13. F. 4; Fig. 1. Boerb. Ind. alt. Plant. Vol. 2. p. 48.*

LUPULUS.

The Characters are;

The Root is very creeping. The Leaves are rough, angular, and conjugated; and the Stalks voluble. The Flowers are apetalous, furnished with Stamina, are seated in a quinquepartite Calyx expanded like a Star, are collected into Tufts, and grow on a separate Plant. The Ovaries are horned, and collected into squamous Tufts, composed of a Multitude of small Leaves growing to an Axis, each Leaf inclining a Seed, which is generally round, and hid by a membranaceous Cover.

Boerhaave mentions two Species of this Plant, the Male and the Female; which *Dale* includes under one Article, that is,

Lupulus mas & femina. *C. B. P. 298. J. B. 2. 151. Raii Hist. 1. 156. Synop. 52. Tourn. Inst. 535. Boerb. Ind. A. 2. 104. Lupulus. Offic. Lupulus sativus & sylvestris. Park. 176. Lupus salictarius. Ger. 737. Emac. 884. HOPS.*

The Hop is a Plant which runs to a great Height, climbing up and twining round the Poles, which are placed for its Support. The Branches are rough and hairy, bearing large, rough, Vine-like Leaves, divided into three Parts, serrated about the Edges. On the Tops of the Stalks grow Clusters of large, loose, scaly Heads, of a pale-greenish-yellow Colour when ripe, and of a pretty strong Smell. The manured Hops are cultivated in particular Gardens; the wild are found frequently in the Hedges, being ripe in *September.* The Hops, and the young Shoots, or Asparagi, are used.

The young Shoots, or the Hop-tops, are eaten by many in the Spring, and are accounted good to cleanse the Blood, loosen the Belly, and provoke Urine. The Hops, besides their great Use in making Beer, are good to open Obstructions of the Liver and Spleen, to cure the Jaundice, and bring down the Menfes, and are serviceable in hypochondriac Affections. Some Authors commend them as a Remedy against the Stone, which others make a Doubt of. A Pillow stuffed with Hops, and laid under the Head, is said to procure Sleep in Fevers, attended with a Delirium. *Miller's Bot. Off.*

The Hop is bitter, detergent, and gives no Tincture of Red to blue Paper. By the chymical Analysis, a little Acid, a great deal of volatile concrete Salt, and Oil, are obtained from it; which shews it to contain some Sal Ammoniac, mixed with some Sulphur and Earth. The Tendrils and Tops of Hops are used to purify the Blood, in the Scurvy, Tetter, and all cutaneous Diseases: Infuse, a whole Night, two Pugils of Hop-tops, in Whey, or White-wine. In hypochondriac and melancholic Cases, give an Apozem and Julap of Hops, with two Drams of Tincture of Steel to each Dose, which, also, provokes the Terms; the Syrup of its Juice has the same Virtues; you may, also, mix Fumitory-juice with it for the Syrup. *Clusius* says, that at *Salamanca*, in *Spain*, they prepare the following Sudorific, for a falling off of the Hair, in the Venereal Disease:

Take eight Pounds of Water; one Pound of Hop-roots: Let them macerate together all Night; next Day boil them to the Consumption of a third Part, or to half, if the Disorder be very considerable: Give eight Ounces of this Decoction in the Morning fasting, and cover the Patient: Some add Parsley-roots, or Dogs-grass; and some Rastins. *Martyn's Tournesfort.*

The principal Use of Hops is well known to consist in preserving Beer from speedily growing sour, or corrupting, and that it may keep for a long time: For this Purpose Hops are effectual by their Bitterness, which, however, vanishes by degrees with Age, the Beer, in the mean time, contracting a vinous Taste. Hops boiled in the Liquor, or Wort, are, also, thought to render the Beer the wholesomer, and more grateful to the Taste; to communicate to it a diuretic and emmenagogue Virtue, to purge

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the Blood, and to be good for the Jaundice, and hypochondriac Affections. But whether it be of any Efficacy for dissolving and expelling the Stone in the Kidneys and Bladder, or, on the contrary, contributes to its Generation and Concretion, remains a Doubt with some.

They who recommend Hops for the Stone, urge as a Proof thereof, their heating and diuretic Quality. The Exploders of Hops, on the contrary, support their Opinion by a strong Argument indeed, no less than Experience, which assures us, that by hopt Beer the Paroxysms of the Stone are exasperated, but, on the contrary, by drinking of Ale, or unhopt Beer, are mitigated: Besides, it is pretended, that since the Introduction of the Use of Hops in Beer into *England*, the Stone is become epidemical, and much greater Numbers are afflicted with the same, than were ever known to be in former Times. As for our Part, says *Ray*, we are inclined to agree with those who approve and recommend the Use of Hops in Beer; for it seems to us to be thereby rendered more salutary, more agreeable to the Stomach, and the more efficacious in concocting the Food. Nor am I induced to think the contrary, because Physicians forbid the Use of Beer to those who are afflicted with the Stone, but recommend drinking of Ale under the same Disorder; for this is done with an Intention of mitigating the Paroxysms: For which Purpose Ale, by its Mildness, and Lubricity, or Smoothness, is well qualified, but by no means for eradicating the Disease, or removing its Cause; for, by its slimy and viscous Properties, and by the Quantity of Tartar, and Feculences, which it deposite, it seems rather proper for the Generation and Concretion of the Stone, than for its Dissolution and Comminution. And it is not true, as to Matter of Fact, that the Stone is become more epidemical since the Introduction of Hops: For, though the Use of Hops in *London* be more frequent than ever, yet fewer Persons now labour under the Stone, than did heretofore; as appears from the accurate Observations of Mr. *Grant*, on the Bills of Mortality. As to the Generation of the Stone in the human Body, we believe it to be promoted by those Liquors which contain and precipitate a copious Tartar: Hence we suppose, that Water-drinkers will preserve themselves from this Distemper; whereas those who indulge themselves in Wine, or drink every Day pure Wine, are very subject to the Stone, or the Gout; the Cause of which Diseases seems to be one and the same Matter; for which Reason there is often a Transmutation of these two Disorders, one into another. It is, also, an Observation, that far greater Numbers are afflicted with the Stone in *France*, where Wine is the ordinary Drink, than in *England*, where we usually drink Beer: Now it is well known, that *French* Wines precipitate a copious Tartar. As to this last Particular, however, the ingenious Dr. *Searl* has, by convincing Experiments, refuted that received Opinion, which makes the Matter of the Stone to be Tartar; though it be true, that great Wine-drinkers are subject to the Stone, and that Wine abounds with Tartar: But it generates the Stone, not because it deposite a copious Tartar, but for some other Reason, not yet discovered.

Take of Bay-salt, and new Hops, each two Handfuls; blue Currants, a quarter of a Pound: Bruise and mix them well together, and, reducing them to a Mass, apply the same, as an Epirhem, to the Wrists, for a quotidian Fever. Mr. *Boyle*. *Rati Hist. Plant.*

Hop-tops are deterfive, but the excessive Use of them creates a great Pain in making Water. The Herb serves for an Epithem in intermittent Fevers, being applied to those Places of the Body where the Vessels are most exposed: It is, also, proper to deterge acrimonious Humours; but it is prejudicial to dry Constitutions, on account of its drying Quality. The Decoction of the Herb is opening, and somewhat heating; whence it is recommended in hypochondriac Disorders, the Scurvy, chronical Fevers, the Itch, and other cutaneous Diseases. The bruised Leaves are good in Luxations, Contusions, and Tumors. And the Roots, boiled, are sudorific. *Hist. Plant. adscript. Boerhaav.*

LUPUS. Offic. Schrod. 5. 304. Schw. Quad. 106. Gesn. de Quad. Digit. 634. Charlt. Exer. 15. *Rati Synop.* A. 173. Aldrov. de Quad. 144. *Jonf. de Quad.* 89. THE WOLF.

The Parts of this Animal in Use are the Teeth, Heart, Liver, Intestines, Fat, Bones, Dung, and Skin. The Teeth, set in Silver, are given to Infants, to rub their Gums, in order to make way for the Eruption of their Teeth. The Heart is said to be good for the Epilepsy. The Liver corrects hepatic Disorders, and is, therefore, good for those who are hydropical, or emaciated, and for such as are molested with Coughs. The Intestines are exhibited as an extraordinary Remedy in the Pain of the Colic; which they are, also, said to cure, if only tied about the Patient: The same Effect is ascribed to the Skin. The Fat is of equal Virtue with that of the Dog; it heats, digests, cures Diseases of the Joints, and is good for sore Eyes. The Bones are effectual in the Pleurisy, and for Blows and Punctures. And the Dung is good for the Colic. *Dale from Schroder.*

LUPUS MARTINUS. *Schonf. Ichth.* 45. *Charlt. Pisc.* 31. *Lupus marinus*. *Schonfeldii*, *Joni. Tab.* 47. *Lupus marinus nostras* & VOL. II.

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Schonfeldii. *Rati Ichth.* 130. *Ejusd. Synop. Pisc.* 40. *Anarrhicas*. *Gesn. Paralip.* 4. THE SEA-WOLF, or WOOLF.

The Parts in Use are the Teeth, called the *Molares*, or Grinders, which are sold in the Shops under the Name of the *Lapis Bufonites*. THE TOAD-STONE. *Bufonitis Lapis*. *Ind. Med.* 23. *Bufonites majusculus atro-rubens instar Capsulae Glandis quercinae*. N. 200. *Suid. Lithop. Brit.* 70. *Mort. North.* 244. *Bufonius*. *Mer. Pin.* 210. *Lapidis Bufonitis Varietas prima*. *Boet. de Lap.* 301. *Batrachitæ, vel Craportinae*. *Gesn. de Lap.* 161. They are like a Bubble, hollow in one Part, and convex on the other, of a whitish-brown, and sometimes of a dark-brown, and sometimes black, white, green and particoloured. It is recommended as a most effectual Remedy against Poisons, and the Pestilence.

Merret, in his *Pinax Rerum naturalium Britannicarum*, assures us, that the Stones called *Toad-stones*, which are esteem'd as Gems, are nothing but the *Dentes molares* of this Fish. "I demonstrated," says he, before the King, who was pleased to honour "with his Presence the Lectures of my learned Colleague Dr. George Ent, whom he knighted, that these Stones were the Grinders of the Sea-wolf; and our Goldsmiths, with the greatest Admiration, confessed, that these Teeth were the same as they sold for true 'Toad-stones'."

I am of Opinion, says *Dale*, that the *Lapides Alethorii* [See ALECTORIA] have much the same Original; but whether from this, or some other kind of Fish, is not certain. They are said by Mistake to be found in the Stomach of a Cock, or Capon. That Stones are found in Birds of the Gallinaceous Kind, we know by every Day's Experience; but these Stones are not generated there, but swallowed by those Fowls for the Communion and Digestion of their Food, and afterwards discharged with the Excrements. What has been said of the *Lapis Chelidonius*, [see CHELIDONIUS] or *Swallow-stone*, with respect to its Original, ought to be compared with what is here said of the *Lapis Alethorius*.

A Cancer is, also, sometimes called *Lupus*, because it eats away the Flesh.

LUS. See LUT.

LUSCINIA. Offic. Aldrov. Ornith. 2. 771. *Charlt. Exer.* 97. *Gesn. de Avib.* 532. *Jonf. de Avib.* 38. *Schw. A.* 295. *Luscinia seu Philomela*. *Rati Ornith.* 220. *Ejusd. Synop. A.* 78. *Will. Ornith.* 161. *Philomela Luscinia & Luscinola*. *Bellon. des Oyse.* 336. *Luscinia, Luscinola*. *Mer. Pin.* 179. THE NIGHTINGALE.

The Flesh and the Gall are in Use, the former of which is effectual in a Cachexy, and comforts the Brain; and the Gall, made into a Litus with Honey, mightily sharpens the Sight. *Xiraniid.*

LUSCIOSUS. A Person who can only discern Objects which are very near the Eye. The same as MYOPS.

LUSTUM. The Cream of Milk. *Rulandus*.

LUTATIO. Luting of chymical Vessels. See LUTUM. But *Lutatio* is, likewise, a bemearing the Parts of the Body with Mud, in order to dry up superfluous Humidity; a Practice very common in *Egypt*, as we learn from *Galen*.

LUTEA, or CIRLUS, is the Name of a small Bird, described by *Aldrovandus*. I take it to be the Yellow-hammer.

LUTEOLA.

The Characters are;

The Leaves are oblong and intire; the Flower is anomalous, polypetalous, the Petals dissimilar; the Fruit is globular, concave, and tricuspidated.

Boerhaave mentions but one Sort of this Plant; which is,

Luteola herba; salicis folio. C. B. P. 100. *Tourn. Infl.* 423. *Boerb. Ind. A.* 251. *Struthium*. Offic. *Luteola*. Ger. 398. *Emac.* 494. *Rati Hist.* 2. 1054. *Synop.* 3. 366. *Lutea Plinii quibusdam*. J. B. 3. 465. DYERS-WEED.

Dyers-weed grows to be a Yard or more high, having hollow, channel'd Stalks, covered with long narrow green Leaves, set on without Foot-stalks; the Flowers grow at the End of the Branch in a long Spike, or Thyrsus, being small and green, and are succeeded by little, round, gaping, flatish Seed-vessels, opening into three Parts, and shewing a very small brown Seed. It grows upon Banks, and upon Walls and Ruins, and sometimes in fallow Fields; but is sown in several Places for the Use of the Dyers, who dye a Yellow with it.

This is esteemed to be the *Struthium* of *Dioscorides*; and, tho' very rarely used, is, by some, accounted a good Wound-herb, and of Use against the Jaundice. It is frequently sold by the Herb-women for *Glastum* or *Woad*. *Miller's Bot. Off.*

Tho' *Struthium* was so well known to the ancient *Greeks*, that *Dioscorides* thought a Description of it unnecessary, the Learned of the latter Ages have greatly differ'd in their Sentiments about it. *Cordus* took it for the *Imperatoria*, or Maltwort. Some, as C. *Baubine* observes, will have it to be the red Valerian; *Puchsur*, *Lamcerus*, and *Thalius*, the *Saponaria*, or Soapwort: All these Opinions are rejected by C. *Baubine*, who takes it for a Species of *Lychnis*, which was sent to him. *Lacuna* and *Gesner* suppose the common *Luteola* to be the *Struthium*, in which they are contradicted by *Matthioli*, who calls that Herb *Pseudo-struthium*.

Struthium. *Honorius Bellus*, in his second Epistle to *Clusius*, determines the *Luteola* to be the *Struthium*; with whose Opinion, says *Dale*, I agree, and consequently have joined them under one Article.

It is called *Luteola*, à *Colore luteo*, from a yellow Colour, because the Root, boiled with Salt, dyes Wool of a very fine yellow or gold Colour. It is of an opening Quality, and the bruised Root is applied to the Hands in feverish Disorders: It agrees in all Things with the *Rubia*. *Hist. Plant. acript. Boerhaav.*

LUTRA. Offic. Bellon. Aquat. 31. Aldrov. de Quad. Digit. 294. Jonf. de Quad. 104. Charlt. Exerc. 18. Schw. Quad. 107. Gefn. de Quad. Digit. 683. Mer. Pin. 167. Raii Synop. A. 186. Schonef. Ichth. 46. THE OTTER.

It is found in large Rivers, and the Fat is used; which, being mixed and boiled up with digestive Medicines, is very serviceable in removing Diseases of the Joints. *Haller*. The Liver, dried, powdered, and taken in the Quantity of a Scruple, or a Dram, is recommended for a Dysentery. The Testicles, likewise, dried, powder'd, and taken in the like Dose, are said to cure an Epilepsy.

LUTRON, λυτρίον. A Bath. It is, likewise, the Name of an Ophthalmic Medicine in *Galen*, de Comp. M. S. L. 4. C. 7.

LUTUM. A Lute. By the Name of Lute, or Luting, Chymists understand a mixed, tenacious, ductile Substance, which grows solid with drying; and, being applied to the Juncures of Vessels, stops them up, so as to prevent the Air from getting either in or out: But these Lutings are of principal Use in confining the Particles raised by the Fire in Distillation, so as to prevent their escaping out of the Vessel; whence it appears, that different Lutings are required, according to the Difference of the Subjects to be distilled.

When the Subject is merely aqueous, Linseed-meal, ground to fine Powder, and well mixed, or worked up into a stiff Paste, with the White of Egg, makes a proper Luting; for, being applied to the Juncures of distilling Vessels, it grows hard with Heat; and, if it happens to crack, it is easily repaired by a fresh Application, which soon grows solid. But a Paste made of the same Meal, well worked up with cold Water, very well answers the End in the Distillation of all fermented inflammable Spirits, and all volatile alkaline Salts. This Paste will not answer in the Distillation of mild Acids, or acerous Liquors, which soften and dissolve it, so as to let the Fumes escape: In these Cases, therefore, a Bladder, steep'd in Water, till it grow slimy, makes an excellent Luting, by being applied and pressed wet upon the Juncures of the distilling Vessels.

A Luting that acquires a stony Hardness, is necessary in the Distillation of the fossil Acids, as those of Vitriol, Sea-salt, and the like; which is called the Philosophical Luting, and may be prepared from the Calx of Copperas and Quick-lime, by boiling the Caput Mortuum in Vitriol, in several Parcels of Water, till it be thus thoroughly washed from its saline Parts, then drying the Powder, and preserving it in a close Vessel. This Powder is to be rubbed with an equal Quantity of strong Quick-lime, and wrought into a Paste with the White of Eggs, first beat thin; and this Luting is immediately to be applied to the Juncures of the Vessels; the Vessels being first a little heated. If it be not applied quick, it presently dries to a stony Hardness, so as to be untractable; but, when properly used, it confines all the saline Spirits, like Glass itself. I prepare a Luting for the same Purpose, without much Trouble, in this Manner: I beat pure Sand and Potter's Clay together, in such Proportion, with Water, till the Matter no longer sticks to the Fingers; then add one fourth Part of common Lime, so as to make the Paste sufficiently strong; and the drier this is applied, the better for the Purpose, provided it be left ductile; for thus it hardens into an excellent Cement, and the Cracks, if any should happen, are easily stopped up by the same. This Cement is the more parable or commodious, as the best Quick-lime is not often to be had.

It is a great Inconvenience in the stronger Distillations with a naked Fire, that, when the Vessels are violently heated, they are subject to crack, and fly to Pieces, upon opening the Door of the Furnace, and letting in the cold Air, or throwing in fresh Fuel; whence it is highly proper here to defend the Vessels by a Coating, from this sudden Impulse of Cold; and this is frequently necessary, also, when the Operation is performed in Glass Vessels, and a Sand-heat, if the Fire be so strong as to endanger the Melting of the Glass. The best Luting that I know of for this Purpose, is made by beating fat Porters Earth, and powdered Sand, with Water, into a well-wrought Paste, which will not stick to the Fingers; adding thereto a little common Lime at the last, and beating them well together. Then the Vessel to be coated, being warmed and exposed to the Vapour of hot Water, that its whole Surface may become dewy, let this Cement be spread all over it equably with the Hand; afterwards sprinkle the Surface of the Coating with hot and dry Sand, and set the Vessel in a cool Place, that the Coating may dry slowly; with Care to fill up the Cracks in the same Manner, if any should happen in the Drying. If thus the Coating be thoroughly dried, the Vessel will sustain the Action of a violent Fire unhurt.

There is another Kind of Cement made use of by some Chymists of London, to answer the same End; consisting of sifted Wood-ashes, beat up to a due Consistence with the White of Eggs, and a little Gum-water. The same Service may be had in a more excellent Manner, as well for cracked Glasses as broken China, or the like, from what the Painters call drying Oil; or a Mixture of Linseed-oil and Ceruse, made by Infusion, or Decoction, into a perfectly white Balsam, and afterwards ground upon a Marble with fresh Cerufs, till the Whole is perfectly fine, and become of the Consistence of an Unguent. This dries slowly indeed, but is very effectual.

LUXATIO. A Luxation.

A Luxation is a Recess or Removal of the moveable Extremity of a Bone from the Hollow or Socket in which it naturally moved, accompanied with an Impediment or Hindrance of Motion.

A Luxation, which is, also, called a Dislocation, and, by *Cælius Aurelianus*, in Cap. 1. Lib. 2. *Morb. Chronic. Delocatio*, denotes a Removal of the Bone from that Part which it naturally possessed; and in this Sense it imports every Change of the natural Situation of the Bones. Custom, however, the Standard of Words, has restrain'd, it to a Recess or Removal of the articulated Bones from the Place they naturally possessed.

Since, therefore, a Luxation, properly so called, can only happen in the articulated Bones, the Definition here given will be found highly accurate; for in every Articulation two Things are to be considered, the receiving Bone, and Bone received. *Gorræus*, in his *Definit.* informs us, that the *Greeks* called the Hollow of the receiving Bone, which received the Head of the other Bone, καύων and the Part of the received Bone lodged in this Cavity, ἄρθρον or, simply, a Joint. We have an excellent Definition of a Luxation in the third Chapter of the sixth Book of *Paulus Ægineta*, who tells us, that "It is a Removal of the Bone received, from its proper Cavity to another; by means of which, voluntary Motion is hindered." For, unless there be an Impediment or Hindrance of Motion, it cannot be properly called a Luxation, though the Extremity of the moveable Bone should recede from the Cavity in which it naturally moves; for in the surprising Articulation of the inferior Jaw-bone, the Head of which is lodged in a pretty deep Sinus in the inferior Part of the Os squamosum, near the Processus zygomaticus, yet, by means of an interposed cartilaginous and elastic Lamina, the Head of the inferior Jaw-bone may be removed from its Cavity, and again return into it, without any Impediment of Motion. Besides, for the Performance of various Motions of the inferior Jaw-bone, it is requisite, that its Head should be thus capable of being removed from its Cavity.

This Removal of the articulated Bone from its Cavity is either total, or partial; the former is a Luxation, and the latter a Distortion.

It is easy to conceive, that the Head of an articulated Bone may either totally slip from the Cavity in which it is naturally contained, or be so removed from its natural Situation, as to remain partly within, and partly without, its Cavity. *Hippocrates*, however, in his Treatise de Articulis, denies that this can happen in all Articulations: For as the Heads of the Os Humeri and Os Femoris are entirely round, and received into similar Cavities, he concluded, that there could not be a partial Removal of them from their Cavities; but that it was necessary either they should be totally removed, or that, being partially removed, they would again slip into their Cavities. But it is sufficiently obvious, that this may happen in other Articulations. Hence *Paulus Ægineta*, in the third Chapter of his sixth Book, tells us, that, in the Definition of Luxations, "There is no other Distinction to be made, but that of Greater or Less; for, when the Head of the Bone is entirely removed from its Cavity, it is called by the common Name of ἑκτέθηται whereas when it is only slightly removed, or brought to the Lips of its Cavity, it is called ἀρτεθῆται." For the Preposition ἀρτε, prefixed to any Name of a Disorder, denotes its Slightness: Thus the ancient Physicians used *Parapoplexia* for a slight Apoplexy, and *Parasynanche* for a gentle Quinsey. Hence *Vesalius*, in *Chirurg. Magn.* seems to have used these Words improperly, when he affirmed, that Luxations arising from an Influx of Humours upon the Joint were called ἀρτεθῆματα and those arising from an Impulse of the Humours into the Articulation, ἑκτέθηματα. But it will be sufficiently obvious, from what follows, that true and genuine Luxations may be produced by Humours falling into the Cavity of the Articulation. But a Luxation, in which the Head of the Bone is only partially removed from its Cavity, is called a Subluxation, or a Distortion; which last Word, however, also, denotes a Change of the Situation of Muscles, or Tendons, by some external Force; as, also, a Distraction of the Ligaments produced by the same Cause, or, as it

it were, by a kind of Intorsion: Hence such an imperfect Luxation is less ambiguously called a Subluxation, than a Distortion.

The worst Luxation of all is that produced by a Solution or Separation of the Epiphysis from the Body of the Bone.

In the larger Bones, join'd to each other by a moveable Articulation, such as the *Ossa Femoris*, it is observable, that both Extremities are distinct from the rest of the Bone; which may be most palpably seen in the Bones of new-born Children and Abortives; for these Bones were once totally cartilaginous, and, in their middle Point from both Extremities, there first begins to appear a small bony Portion, which diffusing itself both Ways, or to each Extremity, gradually converts the Cartilage into a Bone. See *Albini Icones Ossium Fœtus humani*. But both Extremities long remain cartilaginous, and in these, also, the Cartilage begins internally to be form'd into a Bone, which gradually diffuses itself almost thro' their whole Substance. But there long remains between the *Os Femoris*, and both its Extremities, something of a cartilaginous Nature; by which, as by a kind of Glue, the Extremities of the Bone seem fixed, and, as it were, agglutinated to its Body, till at last this cartilaginous Substance becoming bony, the Extremities, according to the last quoted Author, are concentered into one continued Body with the rest of the Bone; but in such a manner, however, that externally there remains for some time a certain Mark of Division, which is at last abolished, as *Albinus*, in the Work above quoted, intimates. These Extremities of the *Os Femoris*, distinguish'd from the rest of its Body by this intermediate Cartilage, or Mark of Division, are called Epiphyses. In young Animals these Epiphyses are, by a very gentle Force, separated from the rest of the Bone, as we daily observe at Tables. But in those Parts where the Epiphyses are join'd to the rest of the Bone, arise Ligaments which every-where surround and secure the Articulations. And *Columbus*, in his *Treatise de re Anatomica*, Lib. 1. Cap. 2. thinks, that the principal Use of the Epiphyses was, that, from their Junction with the Bone, Ligaments might arise, which are observed to be continued to no other Part, but here emerge from the Bone itself. *Clopton Havers*, also, in his *Osteologia Nova*, has observed, that, in those Parts where the Ligaments arise, the Periosteum, surrounding all the rest of the Bones, is there separated from them, and, creeping over the external Surface of the Ligaments, is conveyed to another Bone.

If, therefore, the Epiphysis is separated from the rest of the Bone, 'tis sufficiently obvious, that the Motion of such a Joint must be disturb'd. But this cannot be properly and strictly called a Luxation, because the Extremity of the moveable Bone remains in the Cavity in which it naturally moves. But, in the Definition already given, such a Removal of the Extremity of the moving Bone from its Cavity constitutes a Luxation; for which Reason this Disorder may, perhaps, be more properly referred to Fractures. *Galen*, in his *Method. Medend.* Lib. 6. Cap. 5. seems to class it among the Species of Fractures, since he calls it ἀπαγμα, whereas he calls other Fractures by the general Name of κατάγμα, and tells us, that the Word ἀπαγμα was used only by Physicians, but not generally by other Persons. It signifies that Species of Fracture, in which the Extremity of the Bone, especially where it is articulated with the other Bone, is broken; and, because such a Species of Fracture is often taken for a Luxation, the former is generally referred to the latter. But this is principally observed to happen in Luxations of the *Os Femoris*, the Epiphyses of which are often separated from the rest of the Bone; or the Neck of the Bone itself, which is highly tender, is fractur'd; for *Ruyfch*, in *Theſaur. Anatom.* 8. N° 103. informs us, that a celebrated Surgeon eight times opened the Carcasses of lame old Women, and always found the Neck of the *Os Femoris* broken, but never observ'd any Luxation. But, since in young Patients the Epiphyses are most easily separated from the rest of the Bones, this Disorder is therefore most incident to them; and especially when Infants, carried in a Person's Arms, suddenly throw their Bodies backwards, there is great Danger, lest the Epiphysis of the *Os Femoris* should be separated, or the Neck of that Bone be broken; in consequence of which they remain lame during their whole Lives, because the Body of the Bone, now separated from its articulated Head, is drawn upwards by the Force and Action of the Muscles: But, in Cases of this kind, surprising Efforts of Nature, to supply this Defect, are sometimes observed; for *Ruyfch*, in his *Theſaur. Anatom.* 9. N° 74. informs us, that in the Body of an old Woman, who, during her Life, had labour'd under such a Misfortune, he found the Neck of the *Os Femoris* totally wanting, in the room of which Nature had substituted various hard, thick, and round Ligaments, by means of which the Head of the Bone was united, and joined to the other Parts of it. 'Tis sufficiently obvious, that the Cure of this Misfortune is more difficult, than that of a Luxation properly so called; for luxated Bones, reduced to their natural Situation, are easily retain'd, provided the Part is kept in a State of Rest; but, when the Epiphysis is separated from the rest of the Bone, the Muscles inserted in the Bone will, by their natural Contraction, remove it from its proper

Situation; by which means the Limb is almost always shortened, and the Motion of the Part destroy'd.

The Cause of a Luxation may be an external Force, extending, intorting, or expelling the Head of a Bone from its Cavity.

There can be no Luxation without an external Force, if the Articulations, and the Ligaments securing them, are in their natural Condition; and, in Adults especially, those of a strong and robust Make, a very considerable Force is requir'd to dislocate an Articulation, as is sufficiently obvious from the Strength of the Ligaments which secure the Joints. But an external Force may act in the three manners here specified, that is, by Extension, Intorsion, or Expulsion.

A Luxation may, also, proceed from an internal Cause, form'd in the Cavity of the Articulation, and forcing the Head of the Bone received, out of its Socket.

The Ligaments connecting the articulated Bones, and arising from those Parts where the Epiphyses are join'd to the rest of the Bone, surround the whole Articulation, like a kind of hollow Capsula; and form a kind of Inclosure, from which nothing can be discharged, and to which nothing has Access. In the internal Cavity of every Articulation are contained the two Extremities of the receiving and received Bone, every way surrounded by a Cartilage; and, in the large Articulations, there are very considerable Glands, which receive their Name from *Havers*, their first Inventor. There is one such large Gland in the Articulation of the superior Part of the *Os Femoris*, and four or five smaller Glands in the Articulation of the Knee, as we are inform'd in *Clopton Havers's Osteologia Nova*: Besides, many small Follicles are found on the internal Surface of the Ligament which surrounds the Articulation. The same Author, in the Part already quoted, informs us, that from these Glands, which by anatomical Injections are known to consist of numberless Vessels, there is a certain Mucus, like the White of an Egg, and of a saline Taste, secreted. The cartilaginous Extremities of the Bones contained in the Cavity of the Articulation, and which, so far as we know, are covered with no Perichondrium, seem to discharge a thin medullary Oil; a large Quantity of which is lodged in the cavernous Parts of the Bones, near the Articulations. *Clopton Havers*, in his *Osteologia Nova*, informs us, that in large Horses Bones he, with his naked Eye, could perceive those Pores, thro' which the medullary Oil was discharged into the Cavities of the Articulation. This Doctrine is confirm'd by various Experiments; for, as that Author informs us, if the Articulations of a Carcase are preserved entire, till the mucilaginous Substance gradually disappears, or is perhaps reabsorb'd, there is found in their Cavities a pure pinguious Oil, which he says he has sometimes observed in the Articulations of the Fingers. Animals, kill'd soon after violent and long-protracted Labour, have but a small Quantity of Marrow in the Cavities of the larger Bones, whereas in the Bones of Animals duly fed, and kept in a State of Rest, there is a far larger Quantity of Marrow. From all which Considerations it seems to be sufficiently obvious, that the Marrow of the Bones discharged thro' the Extremities of the articulated Bones is mixed with the Mucilage secreted from the Glands; and that, by an Union and Mixture of these, that Liniment is form'd, which anoints the Extremities of the articulated Bones, and so lubricates them, that they can move without any Attrition upon each other. For this Reason, when the pinguious Oil of the Body is consumed by hard Labour, old Age, or Disorders of any kind, a Crackling of the Joints arises, because there is an Attrition of the too dry Extremities of the Bones upon each other. Besides, from the smallest exhaling Arteries, that subtle Dew which we know to be lodg'd in all the Cavities of the Body, large as well as small, transudes into the Cavities of the Articulations.

There are, therefore, three different Humours in the Cavities of the Joints; that is, the universal perspiring Fluid, the medullary Oil, and the Mucilage secreted from the Glands lodg'd there; from a Mixture of which is form'd that lubricating Matter, which, being attenuated by the Heat and mutual Attrition of the Bones, will be again absorb'd in the same Quantity it was accumulated. But if, by any Cause, the Absorption of the Matter thus discharged should be defective, or diminish'd, and the secreting and expelling Causes should, at the same time, continue to discharge it, it will be accumulated, and, by that means, distend and weaken the Capsula form'd by the Ligaments. Hence a Recess or Removal of the articulated Bone from its Cavity may easily arise from this Cause. 'Tis sufficiently certain, from various practical Observations, that large Tumors are often produced about the Joints by this Cause: And *Havers*, in his *Osteologia Nova*, informs us, that the medullary Oil, discharg'd from the cellular Substance of the Bone, thro' the Pores of their cartilaginous Extremities, into the Cavities of the Articulations, has a strong Tendency to Concretion, if it is not attenuated by the Motion, and mutual Attrition, of the articulated Bones; for he says, that in

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fed Animals, which generally have but little Exercise, he has often found concentered Fat lodg'd in the Pores, thro' which it used to be discharged, and which he at first took for some small Gland, tho' he afterwards found, that it was nothing but concentered Oil.

We are, farther, to consider, that an Inflammation may arise here, since it is certain from anatomical Observations, that numberless small Arteries are distributed through the Ligaments and Glands of the Joints; and that a Suppuration may ensue, as, also, an Accumulation of Pus in the Cavity of the Articulation; and, consequently, that, by this means, the like Misfortunes may be produced with those arising from the natural Humours of the Joints, collected here, and not absorbed again. Mr. *Petit*, in *Mem. de l'Acad. des Sciences*, informs us, that Luxations are frequently produced by this Cause; and ingenuously confesses, that he discover'd this by the Errors he himself committed; for when, by a Fall, for Instance, a violent Force acts upon the great Trochanter of the Os Femoris, it is sufficiently obvious, that the Head of this Bone must be strongly applied to the Cavity in which it is contained: Hence the Glands seated there, and the round Ligament, may be so violently contused, as often to produce an Inflammation, a Suppuration, and an Accumulation of Pus, or of the Mucilage. The Ligaments, thus distracted and weaken'd, will no longer retain the Head of the Os Femoris in its Situation; but it will be gradually expelled from its Cavity, and the Muscles affixed to the Os Femoris will, by their Contractility, draw it upwards, and produce an incurable Lameness. This Disorder is with Difficulty discovered in the Beginning, since the Luxation is not produced till a great while after. If it is known, that such a Cause has preceded, and if there is a violent Pain in the Articulation, Venesection, a slender Diet, and antiphlogistic Remedies, are necessary to prevent the Inflammation, or remove it, if present. Keeping the Part affected in a State of Rest, and applying proper Fomentations to it, will, also, be of singular Service. Thus a Luxation arising from this Cause may be prevented; but, if it is already made, it seems incurable.

These Causes last-mentioned are assisted, in producing their Effects, by an Extension, Relaxation, or Rupture of the Ligaments, whether by an external or an internal Cause.

The Cohesion of the Ligaments is the only Cause why the articulated Bones remain in their due Situation. In the Ligaments, therefore, a certain Flexibility is requisite, that they may yield to all the various Motions of the Joint; but they must, at the same time, be so tenacious, as not easily to be stretched or lengthen'd too far. Under the Article FIBRA it is shewn, that too great a Distraction is justly reckon'd among those Causes, which weaken the solid Parts of the Body: Hence too great an Extension of the Ligaments, though it does not immediately produce a Luxation, yet it may so dispose the Joints, as afterwards to render them easily capable of a Luxation. The same will, also, hold true, if, in consequence of too great a Relaxation of all the Solids of the Body, or a particular Weakness of the Ligaments, they should not be able sufficiently to resist the distracting Causes. *Celsus*, in the eleventh Chapter of his eighth Book, describing the general Causes of all Luxations, speaks in the following manner: "Since all the Articulations are secured by strong Ligaments, they are luxated, either by Force, or when the Ligaments are ruptured, or weaken'd by any Cause; they are, also, luxated more easily in Children and young Persons, than in robust and full grown People." It is well known, that in young Persons all the solid Parts are soft, and easily distracted: But in some Persons, tho' full-grown, and sufficiently robust, a surprising Relaxation of the Ligaments is observable in almost all the Articulations; for sometimes Impostors have exposed themselves to public Shew; who, by the sole Force of the Muscles, could luxate, and again reduce, almost all the Articulations of the Body, so as to bend it like a Piece of Wax into various Postures: Hence *Hippocrates*, in his *Treatise de Fracturis*, justly informs us, "That, in the Reduction of Luxations, one Constitution is widely different from another, and one Cavity from another; since, in some, the Task is easy; and, in others, highly difficult. The Ligaments are, also, widely different; since, in some, they are lax; in others, tense. But there are many of so moist and succulent a Flabit of Body, that they can, when they have a mind, without any Pain, luxate and reduce their Articulations." He afterwards adds, that "Luxations do not easily happen in corpulent Patients; but that, when they do happen, they are with Difficulty reduced; whereas the contrary holds true in lean Persons." Then he confirms this Doctrine by the Example of Oxen, which, in the latter End of Winter becoming greatly emaciated, have the Os Femoris more easily luxated, than at other times.

But if, by external Force, the Ligaments are ruptured, or their Cohesion destroyed by a Suppuration, or Corrosion, it is sufficiently obvious, that, in such a Case, a Luxation must be easily produced.

Luxations produce a Change of Figure in the Part, Tumor, Hollowness, a Shortening, and sometimes an Elonga-

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tion, of the Member, Immobility, Distraction of the Muscles, Torpor of the subjacent Parts, a Palsy, a Compression of the adjacent Vessels, Pain, Watchings, an Inflammation, an Oedema, an Anchylosis, Convulsions, Extenuation, the Mortification of the Part, or the Death of the Patient.

In this Paragraph are enumerated the Phenomena, which generally accompany or succeed a Luxation.

As for Change of Figure, Tumor, and Hollowness; these are common Signs, which, accompany every Luxation *Celsus*, in the eleventh Chapter of his eighth Book, says, "There is always a Tumor in that Part in which the Bone becomes prominent, and a Cavity in that Part from which it is removed." But such an unusual and preternatural Tumor and Cavity principally appear, if the luxated Joints are covered with a small Quantity of Integuments; as in the Shoulder and Elbow, for Instance; for, in the Articulation of the superior Extremity of the Os Femoris, this Tumor and Cavity are more difficultly discover'd, on account of the large Quantity of Fat, and the Number of surrounding Muscles. But, that we may be certain, whether the Articulation is luxated, or not, *Hippocrates*, in his *Treatise de Articulis*, justly advises us to compare the injured with the corresponding sound Part: "For," says he, we must judge of the affected Member by the corresponding sound one, and not by looking at the Articulations of another Person; since the Joints of some are more prominent than those of others." In the same Treatise he, also, informs us, that the Change of Figure alone is not sufficient to determine, whether a Joint is luxated, or not: "For," says he, "in many Patients, the Joints, whether through intense Pain, or any other Cause, have a different Figure from those of sound Persons, though they are not really luxated." And even tho' a preternatural Cavity appear about the Articulation, yet, unless there is an unusual Tumor in the opposite Part, formed by the Head of the luxated Bone, a shameful Error may be committed, especially about the Articulation of the Humerus. *Hippocrates*, in the same Treatise, informs us, that he knew some Physicians of Note, who imagined that the Articulation of the Humerus was luxated, when, in consequence of a Separation of the Acromion, the superior Commissure of the Humerus appeared depressed and hollow. And *Galen*, in his Comment on the same Passage, informs us, that this Accident happen'd to himself; for, when, in a certain Place of Exercise, his Acromion was separated, the Master, seeing the preternatural Cavity, imagined that the Head of the Humerus had slip'd down into the Arm-pit; for which Reason he extended the Arm strongly, and endeavour'd to reduce the luxated Articulation, but in vain: And, when, by the Assistance of others, a very strong Extension was made, *Galen* himself, by putting his Fingers into the Arm-pit of the affected Side, endeavour'd to reduce the luxated Joint; but, when he found nothing preternatural in the Cavity of the Arm-pit, he advised them to abstain from any farther Extension: However, imagining that the intense Pain had induced *Galen* to give this Advice, they continued the Extension, and would have certainly torn the Muscles, if a Person of Skill had not seasonably come to the Relief of *Galen*, who, by this preposterous Treatment, perceived himself ready to fall into Convulsions, which could only be prevented by continually anointing the Part with warm Oil. Hence it is obvious, what great Caution is necessary in determining whether an Articulation is luxated, or not; since the most skillful have sometimes err'd in this Affair. *Vanswieten* informs us, that he saw a poor Countryman, whose whole Arm, as far as the Humerus was become gangrenous, because, the Cubit being only tumid with a true Phlegmon, an impudent Quack imagined it to be luxated; and, for that Reason, rack'd the Patient with several violent Extensions thereof.

As for an Elongation or Shortening of the Member; when the Head of the articulated Bone slips out of the Cavity in which it is naturally contain'd, the Muscles affixed to the Bone, by their proper Contraction, draw it upwards. For this Reason a luxated Member generally becomes shorter, in the same manner as fractured Bones. See FRACTURA. In some Cases, however, though rarely, the luxated Member becomes longer; if, for Instance, the Head of the luxated Bone is so situated, that it cannot be drawn by the Muscles: Thus, as *Celsus*, in *Lib. 8. Cap. 12.* informs us, "If both Heads of the inferior Jaw are luxated, the whole Chin hangs down, and protuberates forwards; the inferior Teeth stick farther out than the superior, and the Temporal Muscles appear tense and stretch'd;" for the prolapsed Heads of the inferior Jaw-bone cannot by the affixed Muscles be retracted beyond the Tubercles placed before the Cavities of the Articulation: For which Reason, in such a Case, the inferior Jaw-bone always protuberates beyond the superior. And *Hippocrates*, in his *Treatise de Articulis*, when treating of Luxations, among the Signs which inform us, that the Os Femoris is slip'd to the internal Parts, reckons this one, that the Thigh affected is longer than the other, when compared with it: "For," says he, "the Head of the Os Femoris is lodged on that Bone, which rises upwards from the Coxa to the Pecten, and its Neck is sustain'd

“ sustain’d in the Cavity of the Articulation.” For these two Reasons, *Hippocrates* would have a luxated Thigh to be longer than its corresponding Member. But a Shortening of luxated Members happens more frequently, though they are, also, some times render’d longer: But it still more rarely happens, that a luxated Part retains the same Length with its sound corresponding Member. *Hippocrates*, however, informs us, that this happens, when the Head of the luxated Os Femoris slips to the anterior Parts; but adds, at the same time, that such a Luxation rarely happens.

As for Immobility; all those Motions which require a due and natural Disposition of the luxated Joint, either cannot be performed at all, or, at least, not without the greatest Difficulty; and certainly, in a true Luxation, all those Motions can never be exercised, which were perform’d when the Joint was sound: Thus, for Instance, when the Articulation of the Humerus is in its natural State, a Person can with his extended Arm describe numberless Cones, whose Vertexes may be conceived in the Cavity of the Articulation, and whose Bases are described by the Extremities of the Fingers. But, if the Head of the Os Humeri is slip’d out of the Cavity of the Scapula, this can never be done. The same holds true in the other Articulations. However, all the Motions of the Joints are not always destroyed by Luxations; for some of them often remain, as *Hippocrates*, in his Treatise *de Articulis*, justly observes; for, after having spoken concerning those Persons, who, from their Birth, have short Shoulders, whether from a Luxation in the Uterus, or any other Cause, he tells us, “ That in full-grown Persons, when the Humerus is luxated, and not reduced, the Top of the Shoulder becomes extenuated, and more stript of its former Flesh; but, when the Patients are freed from Pain, they cannot equally well perform all those Motions, which require that the Cubit, being removed from the Breast, should be rais’d high: But they can perform all those Motions, which require that the Humerus should be moved forwards or backwards; for they are capable of using an Augre, a Saw, or an Ax, provided it is not necessary to raise the Cubit very high.” In various other Parts of the same Book, *Hippocrates*, when treating of the Luxations of the same Articulation, tells us, what Motions are destroyed, and what remain: Hence, under this Limitation, Immobility is classed among the Effects of a Luxation.

As for a Distraction of the Muscles; the Head of the luxated Articulation, situated in an improper Place, will necessarily press the adjacent Muscles, and distract them. Besides, the Muscles affix’d to the luxated Bone will necessarily change their Situation. Hence, some of these Muscles must be lengthened and stretch’d, whilst others are relaxed. When Mr. *Petit*, in *Mem. de l’Acad. des Sciences*, An 1722 enumerates the Signs, by which ’tis known, that the Head of the Os Femoris is slip’d out of its Cavity to the posterior Parts, he informs us, that the Glutei Muscles are relaxed, whereas the Musculus Triceps appears highly tense, like a Cord from the Region of the Pubes, to the Middle of the Os Femoris. When the Head of the inferior Jaw-bone is luxated, it is sufficiently obvious, from an anatomical Knowledge of the Parts, how much the Temporal Muscles must be distracted. Hence Convulsions are often produced, and sometimes the Death of the Patient.

As for a Torpor of the subjacent Parts, and a Palsy; these, for Instance, will be produced, if the luxated Articulation compresses any large Nerves; or if, as it happens in a Luxation of the Vertebrae, the spinal Marrow is compress’d. When *Hippocrates*, in his Book *de Articulis*, treats of a Luxation of the Spine, he informs us, that, when the superior Part of the Spine is luxated inwards, the whole Bodies of the Patients become paralytic and torpid [*παραπληγικοί*]. Now, if the Head of the Os Humeri, falling into the Cavity of the Axilla, compresses the large Trunks of Nerves distributed there, it is sufficiently obvious, that the same Misfortunes may happen in the subjacent Parts. When the Head of the Os Femoris is luxated to the anterior Parts, among the other Signs of this Disorder, *Hippocrates*, in his Treatise *de Articulis*, reckons a Suppression of Urine, because, in this Case, the Head of the Bone is adjacent to very considerable Nerves. But it should seem, that a Compression of the Nerves should rather excite an involuntary Excretion, than a Suppression of Urine. But *Hippocrates*, in his Treatise *de Locis affectis*, Lib. 2. Cap. 4. informs us, that, if the Medulla Spinalis is injured by any Cause whatever, neither the Fæces, nor the Urine, are at first evacuated; but, as the Disorder becomes older, that they are involuntarily discharged. Hence it is obvious, that a Compression of the Nerves may sometimes produce a Suppression of Urine. If, therefore, the Nerves subservient to Sensation and Motion are entirely compress’d, a Palsy, accompany’d with perfect Insensibility, will be produced; and, if the Compression be but slight, it will, indeed, diminish, tho’ not absolutely destroy, the Function of the Nerves. In this Case, the subjacent Parts will be seiz’d with a Torpor; which, as *Galen*, in his Treatise *de Locis affectis*, beautifully expresses it, is a kind of intermediate Disorder between a Palsy and perfect Health.

As for the Compression of the adjacent Vessels; as the Head of the Os Humeri, slip’d from its Cavity towards the Axilla, often presses

upon the large adjacent Trunks of Nerves, so it may also compress the large Blood-vessels situated there; and consequently, so long as it remains in that Position, hinder the free Influx and Efflux of the Blood in the subjacent Parts. Hence a Gangrene, or Atrophy, will ensue.

As for Pain; such a Disposition of the nervous Fibres arising from the Brain, as threatens a Solution of Continuity, excites the Idea of Pain in the Mind. But an Articulation cannot slip from its Cavity without a strong Distention of the Ligaments which surround it; and, so long as the luxated Bone remains in this preternatural Position, the Ligaments are more distracted, than in a natural State. Hence a pretty acute Pain accompanies a very recent Luxation, which, however, generally ceases, or, at least, is greatly diminished, when the luxated Bones are reduced to their due and natural Situation. For this Reason Luxations are justly class’d among the Causes of Pain. Now, if we consider, that the Periosteum, in that Part where the Ligaments of the Joints arise, is separated from the Bone, and runs along the Ligaments, as is observed under the Article *Fractura*, it will be sufficiently obvious, that the Ligaments cannot be distracted, without, at the same time, affecting the incumbent Periosteum, which is possess’d of an intense and quick Sensation. Hence another Cause of Pain arises. Besides, the Head of the luxated Bone, by pressing the adjacent Parts, may distract the nervous Fibres dispers’d thro’ these Parts, and, compressing their Vessels, produce Obstructions and Inflammations, which is still a fresh Source of Pain. But when the luxated Bone is not reduced, the Fibres of the Ligaments are, by their long Distraction, as is observed under the Article *Fimra*, so weakened, as to become capable of a more easy Yielding and Elongation, without Danger of Rupture. Hence the Pain is gradually diminished, till at last it ceases. But the adjacent Parts, being pressed and acted upon by the Head of the luxated Bone, become callous, and lose their Power of Sensation. We have already observed, when treating of the Immobility subsequent to Luxations, that those Patients are, in Process of Time, freed from Pain, whose luxated Articulations are not reduced; and that they can still commodiously perform a considerable Number of Motions. When *Hippocrates*, in his Treatise *de Articulis*, speaks of a Luxation of the Os Femoris towards the exterior Parts, he says, “ That when the Flesh, into which the Head of the articulated Bone is slip’d, becomes callous and tough, the Pain ceases for a time; and, when such Patients are free from Pain, they can, if they have a mind, walk without a Staff, and support their Bodies on the affected Leg.” For *Gorræus*, in *Definit. Med.* observes, that the Word *γλίσχρον*, in Fluids, denotes a greater Viscidity, and, in Solids, an increased Tenacity or Toughness.

As for Watchings; these are justly classed among the Effects of Pain: Since, therefore, it has been just now prov’d, that Pain accompanies Luxations, it follows of course, that the Patient must be afflicted with Watchings so long as intense Pain continues.

As for Inflammation; an Inflammation is present, when the Fluid stagnating in the Vessels is pressed and acted upon by the succeeding Liquid, which is thrown into a brisk Motion by the Fever. In Inflammations, therefore, an Obstruction and a brisk Circulation of the Humours are supposed. But every Force which compresses, or lengthens, the flexile Vessels, lessens their Cavities, and may, consequently, prove the Cause of an Obstruction. Now, by a Luxation, the Ligaments, Muscles, and Tendons, affixed to the Bones, are lengthened, and the Bones removed from their natural Situations compress the adjacent Parts. Hence an Obstruction proceeds from a Luxation, as the Effect does from its Cause, and a Fever is class’d among the Effects of Pain. Hence it is obvious, that in Luxations the two Circumstances sufficient to produce an Inflammation concur; that is, an Obstruction, and a brisk Circulation, of the Blood, produced by the Fever arising from the Pain accompanying every Luxation. But what violent Fevers, accompanied with Inflammation, are often subsequent to Luxations, *Hippocrates* informs us, in his Treatise *de Fracturis*: “ For,” says he, unless the Os Humeri, luxated at the Cubit to the anterior Parts, is forthwith reduced, violent Inflammations ensue; but, if it is luxated to the posterior Parts, it excites an intense Pain, and violent continual Fevers, accompany’d with an Evacuation of unmix’d Bile, and which in a few Days prove mortal.” This he, also, confirms in his Treatise *de Articulis*, when speaking of the Luxation of the Cubit; and, when treating of the Luxation of the Jaw-bone, he advises it to be reduced with all Expedition, because, otherwise, the Patient’s Life will be endangered, on account of the continual Fevers arising from that Neglect: And he afterwards adds, that, in such a Case, the Patient generally discharges by Stool a small Quantity of unmix’d Bile; and, if he vomits, the Matter thrown up is of the same kind.

As for an Oedema; ’tis observed under the Article *INFLAMMATIO*, that at first all preternatural Tumors were comprehended under this Name, but that it was afterwards confined to soft Tumors, which were free from Pain, and yielded to the Pressure of the Finger. Such a Tumor is, for the most part, only form’d in the Membrana Cellulosa, by the Lymph accumulated and be-

coming

coming stagnant in the Cellulæ of that Membrane. But such a Tumor principally accompanies Luxations, when the luxated Bone compresses large Veins; for by that means the Motion of the Fluids in the Veins is hindered. Hence the subtile Dew, discharged from the Arteries into the Cavities of the Membrana Cellulosa, cannot be commodiously absorb'd by the Veins; in consequence of which, being accumulated, it becomes stagnant, and is converted into Water, or what *Hippocrates* calls *Ichor*.

As for an *Anchylosis*; *Celsus*, in *Lib. 5. Cap. 18.* informs us, that Articulations, contracted by a recent Cicatrix, are by the *Greeks* called ἀγκύλη. But *Ægineta*, in *Lib. 4. Cap. 55.* informs us, that an Immobility of the Humours, or any Contraction of Joints [τῶν ἀρθρῶν κατοχή] produced by an Infarction of the Humours, or any Contraction of the Nerves, is called ἀγκύλη, and ἀγκύλωσις. An *Anchylosis*, therefore, signifies a destroy'd or lost Flexibility of the Joints, which is often accompany'd by a preternatural Tumor. But, that the Joints may remain moveable, a due Figure and Adaptation of the Extremities of the articulated Bones, the greatest Lubricity in consequence of the cartilaginous, and highly smooth Surfaces of the Extremities of the Bones, and the mucilaginous Liquor, and, lastly, a due Flexibility of the Ligaments surrounding the Joints, are requisite. But, by a Luxation, all these Circumstances are sometimes destroy'd, or at least considerably changed; for the Ligaments, when an Articulation slips from its Cavity, being either ruptur'd, or violently distracted, become inflam'd. The same Effect may be, also, produced by the Force used in order to reduce the Luxation. This Inflammation may be succeeded by a Suppuration, or a Gangrene. Hence the Ligaments will afterwards remain contracted and rigid. Besides, when the Ligaments are thus affected, there will not be such a Secretion of the Mucilage destin'd for lubricating the Joints, as there generally is in a natural State. By this means the Motion of the Joint will be hindered. And since, when the Ligaments are inflam'd, an intense Pain is excited by the smallest Motion of the Joint, the Part remaining at Rest, the Mucilage of the Joints is not sufficiently attenuated and resorb'd; which, therefore, being accumulated, and its finer Parts dissipated, will become concreted into an irrefolvable Mass, and totally destroy the Motion of the Joint. If, whilst the Head of a Bone slips out of its Cavity, or whilst it is reducing, the cartilaginous Surface, on the Margin of the Cavity, is injured, or in any manner deprav'd, this will prove another Source of an *Anchylosis*.

As for *Convulsions*; an intense Pain, which disorders the whole Common Sensory, is frequently succeeded by Convulsions; for which Reason Convulsions may succeed a Luxation. Besides, a Luxation is frequently accompanied with such a violent Distortion of the Muscles, and Distraction of the Tendons, as are sufficient to produce Convulsions; for we know from daily Experience, when the Tendons of the Muscles subservient to the Motion of the Hands and Feet start from their natural Situation, what intolerable Pain and Convulsions, generally called the *Cramp*, such Muscles are seized with. *Hippocrates*, in his *Treatise de Articulis*, tells us, that when the Bones of the Legs are luxated, and the Disorder accompanied with a Wound, the Bones at the Ancles, whether luxated internally, or externally, are not to be reduced, because, if they are reduced, the Patients live but a few Days, and die of Convulsions. In the same Work he tells us, that the like Misfortune is to be expected, if the Bones of the Cubit are so luxated about the Carpus, as to stick out of the Wound. And he afterwards affirms, that, if Convulsions should succeed the Reduction of the Luxation, the reduced Part ought forthwith to be forced out of its Cavity, and bathed with some proper warm Liquor.

As for *Extenuation*; when by any Cause the larger Arteries, or the Nerves distributed to any Part, are hindered from conveying the vital Humours necessary for the Life and Nourishment of that Part, a true Marasmus is produced, because the former Fluids being gradually dissipated, and fresh ones not supplied, all the Vessels become contracted. Under the Article *VULNUS* there is a memorable Instance of this, in which the axillary Artery being entirely cut, the whole Arm afterwards wither'd away like a Mummy. When, therefore, the Head of the Os Humeri, for Instance, being luxated, has for a long time compressed the large axillary Vessels, it is sufficiently obvious, that the like Misfortune is justly to be dreaded.

But *Hippocrates*, in his *Treatise de Articulis*, mentions another Cause of Extenuation; that is, when the luxated Bones are not reduced: For, when treating of a Luxation of the Thigh, he says, that if it happens to those who have not arrived at their full Growth, and is not reduced, the Thigh, Leg, and Foot, are by that means rendered shorter. "Nor," says he, in like manner, "are the Bones lengthened, but rather rendered shorter, especially the Os Femoris. The whole Leg, also, losing its Flesh and Muscles, becomes extenuated and small, partly because the Bone is moved from its natural Situation, and partly because it cannot perform the Offices it could in a natural State; for Exercise strengthens that which is weak, and resolves some Part of that which hinders the Increase of the Member in Length. But those Patients are most injured who have this Articulation luxated in the Uterus: Those who sustain

"the next greatest Injury, are such as have it luxated in their Infancy and Youth: But adult and robust Persons sustain the least Damage by such a Misfortune." But *Hippocrates*, in the same Work, observes, that this Extenuation is principally observable in the Parts most contiguous to the luxated Articulation; which he proves by the Example of those whose Shoulders have been luxated before their Birth, or, at least, before they have arrived at their full Growth; for in such Persons the Os Humeri is shorter, and the Cubit and Hand somewhat less, than in sound Persons: He adds, that they can do most things with the affected as well as with the sound Arm: And he says, that the Flesh of the Thigh and Leg is diminish'd, when the Head of the Os Femoris, articulated with the Coxa, slips towards the internal Parts, because the Patients cannot use that Leg. Hence the Extenuation succeeding an unreduced Luxation is not always to be ascribed to a Compression of the large Vessels, but often depends on a Defect of muscular Motion in the Part affected. For this Reason *Hippocrates*, in his *Treatise de Articulis*, observes, that in Adults, when the Os Femoris slips from its Cavity, to the external Parts, and is not reduced, the Bulk of the Member is not much diminished, because the Use of the Member is not destroyed; for the Flesh, in which the Head of the Bone is lodged, being rendered firm by the Attrition, they can walk without a Staff. But afterwards, from various Observations concerning this Extenuation, he deduces a general Axiom: "If, says he, the Parts of the Body destined for any particular Purpose are moderately used and exercised in that for which they were designed, they continue sound, and are increased; but, if they are not used, they become morbid, are not increased, and soon become, as it were, old. This happens principally to the Nerves and Joints, unless they are duly used." How efficacious muscular Motion is in restoring, by means of the Aliments, what, by the necessary Effect of Life and Health, is daily lost, not only from the whole Body, but, also, from each of its Parts, is shewn under the Article *FIBRA*. Now, if we consider, that the Muscles, Tendons, and Ligaments, when left to themselves, are, by their spontaneous Contraction, shortened, and become rigid; and that, when the distending Causes are removed, the Vessels of the human Body are, by their proper Contractility, rendered narrower; the Reason will be obvious, why, after a Luxation, by which the Motion of the Member is hindered, an Extenuation ensues. Besides, this Doctrine is sufficiently confirmed by the Observations of the best and most skilful Surgeons.

As for the *Mortification of the Part, or the Death of the Patient*; among the Effects of Pain, we may justly reckon a Gangrene, which is such a Disorder of a soft Part, as, after the Abolition of the vital Influx of the Fluids into the Arteries, and its Efflux by the Veins, tends to a Mortification. The same Misfortune, also, often succeeds the violent Inflammation, which so frequently accompanies Luxations. *Hippocrates*, in his *Treatise de Articulis*, when the Bones of the Leg are luxated about the Ankle, tells us, that, if a Reduction of them is attempted, the Foot and Leg are seized with a Gangrene. If, therefore, the large Vessels are so compressed, or injured by a Luxation, that the Influx and Efflux of the vital Humours is hindered, the Mortification of the Part is immediately approaching. The same will, also, happen, if, when a violent Inflammation is already present, a Reduction of the luxated Bone is attempted: For, in order to such a Reduction, a strong Extension, and rough Handling, are often necessary; by which means the Inflammation quickly degenerates into a Gangrene. That the Death of the Patient may, also, sometimes be produced by Luxations, is sufficiently obvious from what has been already said; for we have observed, that a Luxation of the Jaw-bone produces violent Convulsions, and Death. And *Hippocrates* informs us, that severe continual Fevers, which in a few Days prove mortal, follow Luxations of the Cubit. When the larger Articulations are luxated with a Wound, so that the Bones stick out of the Wound, Convulsions and Death immediately succeed, if they are reduced; and, when they are left in their luxated Condition, the Patient's Life is still dubious.

From what has been said the evident Signs of a Luxation may be drawn.

That we may be certain of the Luxation of any Joint, we must first inquire, whether there has been any previous Cause, whether external or internal, whole Force was capable of removing the Head of the Bone from its Cavity. We ought, also, carefully to attend whether the Ligaments securing the Articulation are, by any previous external Force, too much distracted, or ruptured, or by whatever Cause so relaxed, that they cannot sufficiently secure the Joint, as is already observed. After, from these Circumstances, a Luxation is justly suspected, we are carefully to inquire, whether those Signs are present, which inform us, that a Luxation is already made. The most considerable of these are, a preternatural Tumor made by the Head of the Bone lodg'd in a wrong Place, and an unusual Cavity in that Part which the Head of the Bone naturally possess'd. But, that

that the Diagnostic may be the more certain and infallible, both these Circumstances must be present, since any one of them often proves fallacious. This Diagnostic is still surer, if the natural Motion of the Member is either totally destroy'd, or at least, much disordered and impaired. If, at the same time, upon comparing the affected with the sound Part, a considerable Difference appears in their Figure and Length, there seems to be no longer any Doubt, but a Luxation is present.

It may, however, sometimes happen, that the Diagnostic of a Luxation is very difficult; for if, by a violent Contusion or Distortion, an Inflammation has rendered the Joint tumid, it is neither easy to discover the preternatural Cavity in the Articulation, nor the unusual adjacent Tumor, whilst, at the same time, the Motion of the Joint is totally hindered by the Intensity of the Pain. Hence, in such a Case, we are carefully to attend, whether the preceding Causes are such as we may reasonably expect should produce a Luxation. Nor, in a dubious Case, will it be improper to suspend our Judgments, because, when a violent Inflammation arises, it would be by no means safe to reduce the luxated Members. For this Reason, after the Inflammation is removed by proper Remedies, the affected Part may be examined. The great Caution necessary in distinguishing Luxations is sufficiently evinced by a memorable Case related by *Galen*, in *Comment. prim. in Libr. Hippocrat. de Officina Medici*.

After we are convinced of the Presence of a Luxation, it is still requisite we should determine whether the Head of the luxated Bone has slipped to the exterior, or interior, the superior, or inferior Parts; for many things necessary to the Prognostic and Cure depend upon the Knowledge of this Circumstance. Anatomy, which teaches the various Union of Bones in different Articulations, and a Consideration of these Motions, which depend upon the natural Condition of the Joint, are of singular Service in the Prognostic and Cure of Dislocations. But this may be principally known from the Part in which the Head of the luxated Bone is lodged. For this Reason *Hippocrates*, and after him some other Physicians and Surgeons, have collected all the Signs, by which the various Luxations of the same Joint may be distinguish'd. Thus, in his *Treatise de Articulis*, he tells us, that the Patient, whose Cubit is luxated towards the posterior Parts, cannot extend his Arm: And, on the contrary, that, when the same Articulation is luxated to the anterior Parts, the Elbow cannot be bended. And, when treating of the various Luxations of the Os Femoris, he accurately describes the Signs accompanying each.

After a mature Consideration of the Bulk, Figure, Situation, the Parts compressed and intercepted, the Time of the Duration, the Concretion of the luxated Parts, the Pain, the Inflammation, and other Symptoms, the Thinness, or Thickness, of the surrounding Parts, the Ligaments destroy'd or lengthen'd, the affixed Muscles, and the like, we are to form a Prognostic, which teaches us whether the Cure will be entire or imperfect, quick or slow, easy or difficult.

After by the diagnostic Signs 'tis certain, that there is a Luxation, we ought to consider all the Circumstances enumerated in this Paragraph, that we may form a sure Prognostic of what is either to be dreaded from the Luxation itself, or from the Force necessary to be used for its Reduction. All these things are to be suggested, if not to the Patient himself, yet, at least, to his Friends, lest any future Misfortunes, unavoidable by the most skilful, should rather be ascribed to the Negligence of the Surgeon, than the Violence of the Disorder. But in forming a Prognostic we are principally to consider, whether 'tis to be expected, that all the Motions, usually performed by the Joint when sound, can be restor'd; or whether only some Uses of the luxated Member are to remain, though it is not entirely such as it was before the Luxation; for thus an entire and imperfect Cure are distinguished. Besides, it ought to be determined whether the Cure can be soon perform'd, or whether it requires a long Time before a due Firmness can be restor'd to the Joint. Thus, for Instance, if a Luxation happens in consequence of a violent Distraction, or a previous Relaxation, the Ligaments are so weakened, that a speedy Cure cannot be expected. But a Cure is said to be easy, when only a slight Extension is necessary to the Reduction, and no violent Symptoms are present. But where the contrary happens, a difficult Cure may be expected, which requires a strong Extension, and many Efforts for its Reduction. Though, to use the Language of *Celsus*, in the 26th Chapter of *Lib. 5*. " 'Tis the Part of a Quack to heighten every small Circumstance, that he may seem to have performed the more surprising a Cure; " yet there is no Harm in making a pretty difficult Prognostic; for, by this means, if any Misfortune should happen, it will appear, that the Surgeon foresaw it; if, on the contrary, every thing should succeed well, he will reap the Praise of so lucky an Event. What Misfortunes are to be dreaded, will be sufficiently obvious from the following Circumstances.

The Largeness. The Largeness of a Luxation is estimated by the Distance between that Place, which the Head of the luxated Bone possesses, and the Cavity of the Articulation. But 'tis sufficiently obvious, that the more the luxated Bone has receded from its Cavity, so much the more the Ligaments surrounding the

Joint must be distracted, and sometimes broken; by which means the adjacent Muscles and Tendons will suffer the greater Violence. Hence an intolerable Pain and Inflammation will be produced. 'Tis, at the same time, evident, that the nearer the luxated Bone is lodged to the Cavity of the Articulation, the more easily the Luxation is reduced. Hence *Celsus*, in *Lib. 8. Cap. 15*. informs us, that the Os Humeri is far more easily reduced when it slips forwards, than when it falls down into the Arm-pit.

As for the Figure; we have already observed, that there is a Change of Figure in a luxated Member. Upon comparing it, therefore, with the corresponding sound Part, the greater the Diversity of Figure is, the greater is the Change of Situation in all the adjacent Parts, and consequently their Distortion or Distraction the stronger; all which Circumstances, as is sufficiently obvious, render the Cure proportionably more difficult. The Figure, also, of the luxated Bone creates a very considerable Difference in this Affair. Thus, for Instance, when the Os Humeri is luxated, and a due Extension made, if its Head is situated before the hollow Sinus of the Scapula upon a Remission of the extended Parts, it easily returns into its Situation. But in the Os Femoris it is quite otherwise; for its Head and Neck form an obtuse Angle, with the rest of the Bone situated below. Hence other Measures are necessary for its Reduction; for though, by means of a strong Extension, the luxated Bone should be brought opposite to its Cavity, it may very easily slip upwards; and, at the same time, miss its Cavity, which lies to one Side: Hence *Hippocrates*, in his *Treatise de Articulis*, when speaking of the Reduction of the Os Femoris luxated to the interior Parts, so orders the whole Apparatus, that, when the Extension is made, an Assistant is to move the Bone from Side to Side, till it returns to its natural Situation.

As for the Situation; if we consider the beautiful Observations made by *Hippocrates*, in his *Treatise de Articulis*, concerning the various Situations of the Os Femoris, when luxated, it will be sufficiently obvious what different Effects of Luxations must arise from this Cause alone; for if the Os Femoris slips to the internal Parts, and cannot be reduced, which frequently happens, the Flesh surrounding the luxated Bone decays, and the Use of the Part will remain very much depraved: But a far less terrible Misfortune will ensue, when the same Bone is luxated towards the external Parts. For which Reason *Hippocrates*, in the same Work, laid down this general Conclusion: " About the Coxæ " there is a great Difference whether the Head of the Os Femoris is luxated towards the internal or the external Parts; there " is, also, a Difference, though a less considerable one, when " it is luxated at the Knee." There is a peculiar kind of Lameness proper to each of these Cases: For they, in whom it is luxated to the external Parts, have their Leg crooked, and stand less streight than those in whom it is luxated to the internal Parts. The like happens when the Bone at the Ankle is luxated; for, if it is luxated to the external Part, the Leg is bow'd towards the internal Part, but can stand; but, if it is luxated to the internal Part, the Leg is bow'd outwards, but the Patient cannot stand so well.

As for the Parts pressed and intercepted; what Misfortunes may happen when luxated Bones press the adjacent Parts, never appears more palpably than in Luxations of the Vertebrae; for, in this Case, the spinal Marrow included in their Cavities is press'd, confused, and sometimes lacerated; and the higher such a Luxation is, the more terrible Consequences it produces. Hence *Celsus*, in *Lib. 8. Cap. 13*. justly pronounces Luxations of the Head, in which the Processes uniting the superior Vertebrae are luxated backwards, to be absolutely mortal: " For, says he, the " Tendons lying under the Occiput are distended; the Chin " hangs down upon the Breast; the Patient can neither drink, " nor speak, and, sometimes, discharges his Semen involuntarily. " This Situation is soon succeeded by Death." He afterwards informs us, that the same Fate attends those who have the Vertebrae of the Spine luxated, and that they die within three Days, though not so soon as those whose Heads are luxated. He, also, there enumerates the Disorders subsequent to Luxations of the Vertebrae; for, if they are totally removed from their Place, he affirms, that the spinal Marrow, Membranes, and Nerves, must necessarily be broken. But, if they were only luxated to the external Parts, he proposed a Method of Cure from *Hippocrates*. But we have already considered this, when treating of the Torpor and Palsy of the Parts below the luxated Articulation. But if, whilst the luxated Bone is reducing, the Nerves, the Vessels, or any Parts of the Muscles, or Tendons, are intercepted, and lodged between them, it is sufficiently obvious what intolerable Pains and Convulsions must be produced by that means. But such an Interception will not readily happen, if a due Extension is made before the Reduction.

As for the Time of the Duration; *Hippocrates*, in his *Treatise de Articulis*, laid down a general Rule in reducing Luxations, which was, to do it with all Expedition: For, says he, the Reduction is most easily made, and the Patient subjected to least Pain, if the Luxation is reduced before the Joint becomes tumid. The most celebrated Surgeons, in Luxations complicated with a Fracture, first take proper Measures for retaining the fractured Bone

Bones in a proper Situation; and then proceed to the Reduction of the Luxation. But in Cases of this kind they always reduce the Luxation, before they attempt the Cure of the Fracture, partly on account of what has been said, and partly because the Extremities of the fractured Bone, reduced to their natural Situation, will easily recede from each other, by the Force requisite to the Reduction of the Luxation. But, if the luxated Bone has remained for some time in that Situation, the Part affected will soon become tumid, inflamed, and immensely painful. Hence a Gangrene is to be dreaded, if it is roughly handled. Besides, the Ligaments, when long distracted, lose their Strength. Hence the reduced Bone will afterwards easily slip out. But the considerable Glands, situated in the larger Articulations, when freed from the Pressure of the Head of the Bone, or when they are inflamed, may become so tumid as to diminish the Cavity of the Articulation. Hence the Reduction will be difficult, and the Retention of the reduced Bone still more so. Besides, the Mucilage of the Joints before attenuated and dissipated by the Motion of the Joint will be now accumulated, and inspissated into a Mass afterwards not to be resolved by all the Efforts of Art, and which frequently so fills the Cavity of the Articulation, that there no longer remains any Place for the Head of the luxated Bone. Now, if we consider, that a Luxation, unless soon reduced, is always succeeded by an Inflammation, by which a long-protracted and deep-seated Suppuration may be produced, as *Hippocrates*, in his *Treatise de Articulis*, observes, when speaking of a Luxation of the Femur, the Reason will be sufficiently obvious, why, in forming a due Prognostic, many Misfortunes must be foreseen, if the Luxation has continued for a considerable time without Reduction.

As for the Concretion of the luxated Parts; 'tis well known, that all the Parts of the Body, adjoining and contiguous to each other, are hinder'd from Concretion, by an intermediate Liquor, as subtil as Dew, and which is lodged in all the Cavities of the Body, whether large or small. But, as soon as this subtil Liquor proves defective, the Parts, before separate, soon become concreted; but, when an Inflammation seizes any Part, the larger Vessels infarcted and distended compress the small exhaling Ducts. Hence a Driness arises in inflamed Parts, and, for this Reason, an easy Concretion with their contiguous Parts. Thus, after violent Pleuritis and Peripneumonies, the Lungs are almost always found adherent to the Pleura. The Head of the luxated Bone, deprived of its natural Mucilage, adjoining to Parts inflamed by a violent Distraction or Compression, is easily concreted with them, if it remains long in that Situation. Hence 'tis obvious, that a Reduction is then impossible; but we immediately see the Cavity of the Articulation filled with luxuriant Glands, or the inspissated Mucilage. Perhaps, also, the Cavity, when the Bone remains long out of it, becomes gradually leis. When the Teeth are pulled out, the Laminae of the Jaw-bone, which, when separate, constituted the Socket, gradually approach nearer to each other, till, at last, they are so united as to leave no Mark of a Socket.

As for the Pain; a recent Luxation is always accompanied with Pain, as we have already observed: But, if this Pain is highly intense, the worst Consequences are justly to be dreaded; because it indicates, that the pained Parts are in such a Condition, as tends to a total Solution of Continuity. Besides, the worst Effects of intense Pain are to be expected, because, in order to the Reduction, a strong Extension of the Parts already so pained is requisite. Hence Convulsions, Deliriums, and Gangrenes, are to be dreaded.

As for an Inflammation; why an Inflammation succeeds a Luxation, we have already observ'd: But it generally accompanies it, unless the luxated Part is quickly reduced; and, where a violent Inflammation seizes a luxated Part, there is the greatest Danger; for, unless the luxated Member is forthwith reduced, it cannot be so afterwards without the greatest Difficulty; and, if inflamed Parts are rudely handled, a Gangrene will soon ensue. But in such a Case, as well as in all others, of two Evils the least is to be chosen; and 'tis better to leave the Parts in their luxated Condition, till the Inflammation is, by proper Medicines, asswaged. This was, also, the Opinion of *Hippocrates*; for, in his *Treatise de Articulis*, when speaking of the most dangerous Luxations, he says, "That they are to be reduced on the same or next Day, but not at all on the third or fourth. When, therefore, they are not forthwith reduced, we are to pass over these Days; for, when they are reduced within ten Days, they are generally retained." And elsewhere, when treating of a Luxation, he lays this down as a general Rule, "That it is improper to reduce any luxated Bone, when a Fever is present, and especially that of the Cubit." But a Fever is the Sign and Concomitant of a violent Inflammation accompanying a Luxation. Thus, also, *Celsus*, in the eleventh Chapter of his eighth Book, informs us, "That every luxated Member is to be reduced, before an Inflammation comes on." But, if an Inflammation is present, we are to wait till it is asswag'd; and, when the Inflammation is over, the Reduction may be attempted. In such Cases, therefore, the Reduction is to be defer'd, and the Patient and his Friends to be told, that the worst

Disorders are to be dreaded, if the Reduction is attempted; that the Cure will afterwards be difficult, and perhaps not entire; lest the subsequent Misfortunes of the Patient should be rashly imputed to the Surgeon or Physician: For tho' Luxations are to be reduced with all possible Expedition, if no Circumstance contraindicate it, yet practical Observations sufficiently evince, that we are not to despair, tho' the Bone has, for a considerable time, remained luxated; for *La Motte*, in his *Traité complet de Chirurg.* Tom. 4. gives us an Instance of a luxated Humerus with a violent Inflammation, which could not be reduced till two Months after; and yet the Disorder was at last totally cured. *Hildanus*, in *Centur.* 2. *Obs.* 90. has sufficiently, by various Instances, demonstrated the terrible Misfortunes, which often succeed the Extension of inflam'd Parts.

As for Convulsions, and the other Symptoms; we have already observed, that Convulsions sometimes succeed Luxations, especially on account of the Violence of the Pain, and the strong Distortion or Distraction of the Muscles or Tendons; and what terrible Misfortunes succeed Convulsions, is sufficiently obvious from Experience. Now 'tis certain, the Reduction of a luxated Member cannot be attempted when Convulsions are present, because the Pain and Distraction of all the Parts being increased, the Causes of the Convulsions would of course be augmented. The ancient Physicians, and especially *Hippocrates*, were greatly afraid of Convulsions in this Case; and *Celsus*, in *Lib.* 8. *Cap.* 25. tells us, "That if, after the Reduction, the Nerves are distended, the Member is forthwith to be luxated again." *Hippocrates*, also, in his *Coacæ Prænot.* N^o 361. seems for this Reason to have affirm'd, that, in a Tetanus and Opisthotonus, a Luxation of the Jaw-bone is mortal; for such a Luxation cannot be reduced, by reason of the Tetanus; and, unless it is speedily reduced, the Life of the Patient is in the most imminent Danger, as we have already observed.

If, besides the Symptoms already enumerated, there are a violent Fever, Deliquiums, and a Hiccup, 'tis sufficiently obvious, that the Reduction of a Luxation cannot be safely attempted, and consequently that the Prognostic must be highly difficult.

As for the Slenderness or Thickness of the surrounding Parts; we have already observed from *Hippocrates*, that the Joints surrounded with a large Quantity of Flesh are luxated with Difficulty, and require proportionable Pains for their Reduction. Hence the most dangerous Luxations are those of the larger Joints, surrounded by strong Muscles and Ligaments; for such Articulations cannot, without violent Causes, be expell'd from their natural Situations: Hence the most dangerous Symptoms frequently ensue. For this Reason *Celsus*, in *Lib.* 8. *Cap.* 25. when treating of Luxations accompanied with a Wound, says, "That in this Case there is great Danger, which is still increased in proportion to the Largeness of the Member, and the Strength of the surrounding Ligaments and Muscles. For this Reason, when the Os Humeri, or the Os Femoris, are luxated, the Death of the Patient is to be dreaded; for, when these Bones are reduced, there is no Hope; and, if they are not, there is still some Danger." And, when treating of Luxations of the Femur, he says, "They are attended with great Danger, since they are either reduced with Difficulty, or slip out again; because, when the Muscles and Ligaments are very strong, they hardly admit of Reduction; or, when they are weak, do not retain the reduced Bone." Hence 'tis obvious, that, in making a Prognostic, we ought to advert to these Circumstances.

As for the Destruction or Elongation of the Ligaments; if, in consequence of a Luxation, the Ligaments surrounding a Joint are so distracted, tho' without a Rupture, as to suffer the Bone to slip out of its Seat; when the Bone is reduced, they may be so contracted, as again to acquire their former Strength. But, if they are ruptur'd, there is great Danger, lest their crude Lips should adhere to the Bone, or other adjacent Parts; or, lest the Cicatrix of the Wound, when cur'd, should render the Ligaments less flexible: Hence the easy Motion of the Joint will afterwards be hindered. Thus, for Instance, a sudden Luxation of the Os Femoris can hardly be conceiv'd, but, at the same time, the round Ligament arising in the Cavity of the Coxa, and inserted in the Head of the Os Femoris, must be ruptur'd; for 'tis certain, that a Luxation may be produced by Causes lodged in the Cavity of the Joints, and gradually weakening or stretching the Ligaments. Hence the Difficulty of the Cure is, in such a Case, sufficiently obvious; for the retracted Extremities of this Ligament are rarely ever join'd again; in consequence of which the reduced Bone will afterwards more easily slip out of its Cavity. But, when the Ligaments are totally destroy'd, and the luxated Bones stick thro' the Wound of the Integuments, the Cure is so highly difficult, that *Hippocrates*, in his *Treatise de Articulis*, absolutely despairs of the Reduction of such a Luxation: "For, says he, in Cases where the Bones about the Ancles are totally luxated, whether to the internal or external Parts, with a Wound, such Luxations are not to be reduced; for, if they are reduced, so violent Convulsions are brought on, as in a few Days destroy the Patient; and, in this Case, few survive the seventh Day." He affirms, that the only Hope of the Patient's Safety consists in not

not reducing Bones thus luxated, tho', at the same time, an unseemly Lameness continues during the whole Remainder of the Patient's Life. He informs us, that there is the same Danger, when the Bones of the Arm are luxated with a Wound; and asserts, that Luxations of this kind are, of all others, the most dangerous, when they happen to the large Bones. Hence, if the Os Femoris, luxated at the Knee, produces a Wound, the Reduction of it will sooner prove mortal, than in other Cases; and, tho' it is not reduced, yet it is far more dangerous, than other Luxations. When the Bones of the Toes and Fingers were luxated, so as to produce a Wound, he indeed order'd an Attempt to reduce them, tho' with the utmost Caution; for he tells us, that even in these Cases the reduced Bones are generally easily luxated again; for which Reason he seems to think, that even in these Cases the Reduction ought not to be attempted, except with a View to hinder the Surgeon from being branded with want of Skill by the ignorant Multitude. But *La Motte*, in his *Traité complet de Chirurgie*, Tom. 4. gives us a memorable Instance, which proves that we ought not always to despair, when such a Luxation, with a Distraction of the Ligaments, happens, especially about the lower Joints. Luxations of this Kind must however, in the very Nature of the Thing, be highly dangerous, and difficult to be cured.

As for the Muscles affixed to the Bone; if there are strong Muscles about the luxated Articulation, the Luxation must have been produced by violent Causes; in consequence of which the Muscles may be so distracted, as afterwards not at all, or at least not entirely, to recover their former Strength; for which Reason there will always after remain a Defect of Motion in the luxated Part. Thus, for Instance, it is certain from Anatomy, that one of the Heads of the Biceps Muscle of the Arm, arising from the superior and exterior Part of the Sinus of the Scapula, in which the Head of the Os Humeri is lodg'd, is situated in the Capsula of the Articulation, and proceeds over the Head of the Os Humeri to the Sinus situated there; after which it emerges from the Capsula of the Articulation, swells into a fleshy Belly, and is at last united to the other Head of the same Muscle. Now, if the Head of the Os Humeri is luxated to the anterior Parts, 'tis sufficiently obvious, that a considerable Violence must be done to the Tendon of the Biceps Muscle. Hence, perhaps, a Defect of Motion will remain in the Member.

Having thus consider'd the principal Circumstances from which the Prognostic of Luxations is to be deduced, we now come to treat of their Cure.

To the Cure, then, of a Luxation two Things are necessary: First, A Reduction of the luxated Parts; and, secondly, A Retention of them in their natural Situation, in order to a Cure.

If, after a mature Consideration of Circumstances, there are no Symptoms found, which render the Reduction either useless or impossible, it is to be attempted: We have already observed, that Luxations of long standing cannot be reduced, because the Cavity of the Articulation is generally filled with concreted Humours, or other Parts, which become luxuriant, when freed from the Pressure of the Bone. We have, also, observed, that the Reduction cannot be attempted, when there is a violent Inflammation, a considerable Tumor, or Convulsions: Nor is the Reduction to be undertaken, when we foresee, that these will soon happen; for in these Cases a proper Delay is more prudent. But to a perfect Cure the two following Things are requisite: First, A Reduction of the luxated Parts: This is of itself sufficiently obvious. And, secondly, A Retention of the Parts in their natural Situation; for the Ligaments, which unite the articulated Bones, are the principal Strength of the Articulation. But a Luxation cannot happen, unless those Ligaments are either ruptured, or so lengthen'd, as to suffer the Head of the articulated Bone to slip out of its natural Seat. We have, also, observed, that by a violent Distraction the solid Parts of the Body may be so weaken'd, as to lose a great deal of their Strength: Hence, though the luxated Members are reduced, yet the Ligaments have not their former Strength; for which Reason the Head of the Bone would again easily slip out, unless that Misfortune was prevented by proper Measures. How easily a Luxation happens after a Reduction, we learn from *La Motte*, in his *Traité complet de Chirurgie*, Tom. 4. where he ingenuously confesses, that, when he had reduced a luxated Humerus, and did not take sufficient Care to keep the Patient from elevating his Arm, the Bone was forthwith luxated again, though he took care to reduce it afresh so quickly, that neither the Patient, nor the Assistants, were sensible of the Error. It is, therefore, requisite to the Cure of a Luxation, that the reduced Bones be retained in their Situation, till a due Strength is restored to the Ligaments; so that the Motions usual in a sound State may be performed without any Danger of a second Luxation; for this is the principal Intention to be pursued. But the Time requisite for restoring the due Strength of the Ligaments is not exactly limited by Authors: It is, however, certain, that it varies according to the Largeness of the Luxation, and the Joint; as, also, according to the Variety of

Constitutions, and the more or less terrible Symptoms, with which the Luxation is accompanied. The Largeness of the Luxation, as we have already observed, is estimated by the Distance of the luxated Bone from the Cavity in which it ought naturally to be contained: And it is sufficiently obvious, that the greater Violence is done to the Ligaments, and other adjacent Parts, the more the luxated Bone is distant from its natural Situation; and, consequently, that the longer Time must be requisite for a perfect Cure. The greater Weight an Articulation sustains in a sound State, the Cure of a Luxation in it will be protracted proportionably the longer. Thus *Celsus*, in *Lib. 8. Cap. 10.* informs us, that Luxations of the Os Femoris and Talus require a long State of Rest, before the Cure is completed. But *Hippocrates*, in his *Treatise de Articulis*, affirms, that a luxated Finger may be cured in fourteen Days time. How great a Difference is produced in Cases of this Nature, by the Diversity of Constitutions, *Celsus*, in *Lib. 8. Cap. 11.* informs us, in the following manner. "If the Body is slender and moist, and the Nerves weak, the Bone is more easily reduced; but is more easily luxated again, and less faithfully retained. In Patients of an opposite Condition, the Bones are more firmly retained; but, when luxated, more difficultly reduced." *Hippocrates*, in his *Treatise de Articulis*, has the same Sentiments. But it is sufficiently obvious, that the Number and Vehemence of the Symptoms protract the Cure. *Hippocrates*, however, informs us, that a gentle Inflammation, after the Reduction of a Luxation, is rather beneficial than hurtful, since, in this Case, the Pain prevents the Motion of the Member; and the Ligaments, render'd tense by the Inflammation, retain the Head of the Bone more firmly in its Cavity: For, in his *Treatise de Articulis*, he says, "Those who have the Humerus reduced without any Inflammation of the surrounding Parts, can forthwith use their Arm without any Pain, and think that no future Caution is necessary to be observed by them. But it is the Duty of the Physician to put them on their Guard, since, in this Case, the Member is again more easily luxated, than where there is an Inflammation." It is always expedient to be careful for a considerable time, not to subject the Member luxated to violent Motions; but we must, at the same time, take care, that by too long-protracted a State of Rest, the Articulation may not become rigid.

We are, also, during the Course of the Cure, by proper Remedies, and a due Regimen, to mitigate those Symptoms, which, in such Cases, are generally most troublesome, and to prevent future Symptoms: The principal of these are Pain and Inflammation, together with all their Consequences. But it is sufficiently obvious, that the more numerous and violent Symptoms are to be expected, the larger the luxated Bone is; because such Articulations are not without violent Causes luxated, and, also, require a strong Extension, in order to their Reduction. Hence, *Hippocrates*, in his *Treatise de Articulis*, informs us, that in the Reduction of all large Articulations, and such as are with Difficulty reduced, the greatest Abstinence is to be enjoined; but a smaller Degree, where the Articulation is small, and easily reduced.

The Reduction is made, first, By securing the Body of the Patient. Secondly, By moving the luxated Member, so as to make its Head correspond to its Cavity. And, thirdly, By introducing its Head into its Cavity, by Intorsion, Thrusting, or Pulsion.

First, Since a greater or less Extension is requisite to the Reduction of a Luxation, and since an Extension cannot be made without Pain, it is sufficiently obvious, that the Body of the Patient must be secured, lest he should disturb the Operator in performing his Office. Besides, it is necessary, lest his whole Body should follow, whilst the Part affected is drawn.

Secondly, *Galen*, in *Comment. in Hippocrat. de Articulis*, when treating of the general Cure of all Luxations, tells us, that a luxated Bone must be reduced by the same Road through which it passed. After considering, therefore, in every Luxation, whence the Head of the Bone began to be expelled, which Way it went, and where it stopped, we must make the End of the Luxation the Beginning of the Reduction, and proceed to the Beginning of the Luxation. Then he illustrates this by an Instance of the Os Humeri luxated to the anterior Parts. How useful this Caution is for the successful Reduction of luxated Bones, is sufficiently obvious; for the luxated Bone made a Way for itself, by removing the adjacent Parts: It can, therefore, return most easily through a Way already made, but not through any other; especially, if the Luxation is accompanied with a Rupture of the Ligaments; for in this Case, unless the Head of the luxated Bone is directed in the same Course through which it passed, it cannot at all be reduced. Now, that this may be done, a more or less strong Extension is requisite, according as the luxated Member is larger or smaller. It is, also, necessary, the Extension should be so strong, as to prevent the Interception of the adjacent Parts, whilst the luxated Head of the Bone is returning into its Cavity. In Luxations of the smaller Joints, a sufficient Extension may be generally made with the Hands; as, also, in

the larger Articulations in young Persons, and those of lax Constitutions. But, if a more considerable Force is requisite, Cords and Machines often become necessary. Many beautiful Things concerning the Use and Structure of these are found in *Hippocrates de Articulis*.

Thirdly, When the luxated Member is by a due Extension, and a proper Motion, so disposed as to correspond to its Cavity, the remaining Part of the Operation is easily performed: Hence *Hippocrates*, in his *Treatise de Articulis*, when speaking of a Luxation of the Os Femoris to the internal Parts, tells us, "That, if the Extension is duly made, the Head of the Femur is so raised, as to correspond to its natural Cavity; and, when it is thus raised, any Impulse or Direction is sufficient to convey it into that Cavity: But, if the Extension is defective, the Reduction will be proportionably more difficult." For the Elasticity of the Ligaments, and the Strength of the Muscles, are, in such a Case, often sufficient for the Reduction. But a Knowledge of the Structure of the luxated Articulation easily teaches the skilful Surgeon what is to be done, when, after a due Extension, the luxated Member, placed directly opposite to its Cavity, does not return to its natural Seat; for, in this Case, the Reduction must be made by a gentle Intorsion, Intrusion, or Application of the one to the other. And, in the Reduction of many Luxations, the Extension and Reduction, are, by skilful Surgeons, made almost at one and the same time. Thus *Celsus*, in *Lib. 8. Cap. 12.* treating of the Luxation of the Jaw-bone, after he has given Directions with respect to disposing and securing the Body of the Patient, tells us, that, "If, when the Jaw-bone is securely laid hold of, provided one Side only is luxated, the Chin is to be shaken, and brought towards the Throat; whilst, at the same time, the Head being secured, the Chin is to be raised, and the Head of the Jaw-bone forced into its Cavity, in such a manner as that all these may be performed almost in one Moment." When Surgeons attempt to reduce a luxated Humerus, by hanging the Patient by the affected Arm, over the Top of a Door, or a Ladder, the Luxation is often forthwith reduced, by strongly pulling the affected Member; but, in difficult Cases, it is of the last Importance for the Surgeon to have skilful Assistants.

That the luxated Bone is reduced to its natural Seat, may be known by a certain Sound, or Noise, made at the very Moment the Reduction happens. But *Celsus*, in *Lib. 8. Cap. 15.* informs us, that a Reduction of the Humerus happens sometimes with, and sometimes without, a Noise: But almost all Surgeons observe such an obscure Noise. But *Hieronymus Fabricius ab Aquapendente*, in *Chirurg. Univers. Lib. 5. Cap. 1.* seems to dread a considerable Misfortune from such a Noise, which he thought was produced when the Head of the Bone struck upon the Lips of the Cavity: Hence he imagined these might be broken, and lodged in the Cavity of the Articulation, before the Head of the Bone entered it; in consequence of which, an entire Reduction could not be obtained: Or he imagined, that this Noise was produced by the Head of the Bone striking upon the Cavity; a Circumstance from which he afterwards dreaded terrible Misfortunes. But daily Experience, and the Observations of the most skilful Surgeons, sufficiently evince, that this Fear is entirely groundless; since, for the most part, such a Noise is heard, whilst, at the same time, none of the Misfortunes ascribed to these Causes ensue. We have already observed, that the principal diagnostic Signs of a Luxation are, the depraved Figure of the Part, a Cavity about the Articulation, and a Tumor in the opposite Part: It is therefore obvious, that, when luxated Bones are duly reduced, all these Signs ought to disappear. Pain, also, always accompanies a recent Luxation, on account of the violent Distraction of the Ligaments, and other surrounding Parts: But, immediately upon the Reduction, this Pain either totally ceases, or, at least, is considerably diminished. There sometimes, also, remains some Degree of Pain, though the Reduction is duly made, on account of the Violence the surrounding Parts have suffered by the luxated Bone, and the Extension, which must sometimes be pretty strong, before the Reduction can be made.

The reduced Members are retained in their Situation by Rest, proper Bandages, and by keeping the Parts in their natural Situation.

After luxated Bones are reduced into their Cavities, the other Part of the Cure consists in retaining them there; and this is obtained

By Rest. In every Luxation, the Ligaments securing the Joints are either ruptured, or at least violently stretched. Unless, therefore, Rest is imposed, the reduced Bone is easily luxated again. Besides, 'tis shewn under the Article FRACTURE, that the solid Parts of the Body are weakened by too strong a Distraction. And under the same Article 'tis shewn, that the Strength of the Cohesion of the solid Parts is increased, if they remain long in the same Contact; and that, in consequence of this, they often acquire too great a Degree of Strength. Rest, therefore, is necessary, that a due Strength may be restored to the distracted Ligaments, or that they may be united, if they are ruptured. But we are to take care, lest, by too-long-continued Rest, the

Ligaments should become rigid, or an Anchylosis be produced by an Accumulation and Infiltration of the Mucilage of the Joints. Hence, a few Days after the Reduction, when there is no Fear of an Inflammation, and the Pain is totally ceased, it is expedient, gently to move the Joint, and rub it softly, as *Hippocrates*, in his *Treatise de Articulis*, when speaking of a Luxation of the Humerus, warmly recommends. And *Celsus*, in *Lib. 8. Cap. 16.* orders this Caution to be principally observ'd in Luxations of the Cubit: "For, says he, it is to be quickly and frequently mov'd, fomented with warm Water, and long rub'd with Oil, Nitre, and Salt; for, in the Cubit, whether it has remain'd luxated, or is reduced, a Callus is sooner form'd, than in any other Articulation: It, therefore, by means of Rest, this Callus is produced, it will afterwards prevent the Bending of that Articulation."

Besides, the Pain, or Inflammation, which, in consequence of the Violence done to the adjacent Parts, often remain after the Reduction of a Luxation, require Rest.

As for Bandage; unless the Ligaments are entirely ruptured, or violently distracted, the reduced Bone is easily retained, provided the Part affected is kept in a State of Rest. Hence Bandages are not always necessary. Thus *La Motte*, in his *Traité complet de Chirurgie, Tom. 4.* tells us, that, when he reduced a luxated Jaw-bone, he apply'd no Bandages; notwithstanding which, the Cure succeeded happily. But if there is any Dread, lest the reduced Bone should again slip out, it is expedient to secure it by proper Bandage, especially if by means of Compresses the Pressure of the Bandage is principally determined to that Part towards which the Bone was luxated. This is beautifully adverted to by *Hippocrates*, in his *Treatise de Articulis*, when treating of the Cure of Luxations of the Os Humeri. "These, says he, must be cured by a Cerecloth, Compresses, and the Application of various Bandages. Soft Wool, wrapt up, must, also, be put under the Axilla, in order to fill up its Cavity, and support the Joint." For, by this means, the Head of the Os Humeri will be hindered from slipping from its own Cavity, into that of the Axilla; for *Hippocrates* says, he knew of no other Species of Luxations of the Os Humeri; for which Reason he did not treat of them.

But 'tis sufficiently obvious, that in any Luxation, when the Way thro' which the Bone has slipped out, is known, it may, by a proper Bandage, be hindered from slipping out again. But, when the Part is thus secured, the Bandage ought rarely to be loos'd, unless an Inflammation comes on; in which Case, *Hippocrates* ordered the Apparatus to be frequently renewed in all Luxations.

As for the natural Situation of the Part; the Part affected must remain long in a State of Rest: But that this may be obtained, such a Position of the Part is requisite, as we observe in a sleeping Person, when no Muscles act by the Direction of the Will, but the Flexor Muscles of the Joints, by their proper Contractility, overcome the Extensor Muscles. Hence all the Joints, almost, appear gently bended; see the Article FRACTURA. For this Reason *Hippocrates* laid it down as a general Rule in all Luxations, that the affected Part should always be kept at Rest, and in a proper Posture. Then he describes the Postures most expedient in different Luxations. Thus, for Instance, when treating of the Cure of Luxations of the Cubitus, he says, the Part ought to be so dispos'd, as that the Hand may be somewhat higher than the Elbow, and the Arm placed by the Side; for, when it is thus suspended, it is borne with the greatest Ease.

If these Measures are duly taken, a successful Cure may be expected, if the Luxation is produced by an external Force; but, when the Luxation proceeds from too great a Laxity of the Ligaments, the Cure is far more difficult. *Celsus*, in *Lib. 8. Cap. 11.* informs us, that Luxations proceeding from a Weakness of the Ligaments, tho' reduced, yet happen again. The Reduction of such Luxations is, indeed, easy; but the Retention of them in their proper Situation, highly difficult, and sometimes absolutely impossible. The only Hope of restoring due Strength to the relaxed Ligaments, consists in keeping the Part affected long in a State of Rest, and applying corroborating Fomentations. In Cases of this Kind, Mr. *Petit* tells us, that he knew excellent Effects produced by thick Compresses wet in aromatic Spirit of Wine, mix'd with Alum-powder, and the Whites of Eggs, apply'd to a reduced Femur, and secured by proper Bandage: And, without removing the Dressings, he frequently each Day moisten'd the Compresses and Bandage with the same Liquor. *Galen*, in *Comment. 4. in Hippocrat. de Artic.* tells us, that he twice cured a Luxation of the Femur produced by this Cause; but says, that the Joint must be long covered with drying Medicines, in order to remove the excessive Humidity of the Ligaments. *Hippocrates* thought the Cure of such Luxations so difficult, that he had recourse to the actual Cautery for that Purpose: As he saw many disabled by Luxations of the Humerus, and knew none who had a proper Method of curing them, he at large describes one, which, tho' by him confined to Luxations of the Humerus, into the Cavity of the Arm-pit, yet may be attempted in other Luxations of that Articulation.

The whole Method of Cure seems to consist in cauterizing the Skin, and Membrana adiposa, in that Part to which the Head of the Bone slips, that, by means of the Cicatrices or the healed Ulcers, the Integuments may be so corrugated and hardened, as not to be easily extended afterwards; by which the Head of the Bone will be kept from slipping that way. Elevating the Arm a little, (for, unless it was rais'd, Access could not be had to the Arm-pit; and, if it was too much elevated, the tense Skin could not be laid hold on) he orders the lax Skin, and Membrana adiposa, to be so raised with the Fingers, that the Integuments may be separated as much as possible from the Glands, Nerves, and large Blood-vessels.

Then he orders an Iron, not too thick or large, but oblong, to be passed thro' the Skin, thus rais'd, as quickly as possible; for which Purpose he advises the Iron to be ignited so, as to become pellucid [*χρὴ δὲ διαφάνει καίεν*]. Then, whilst the Skin is yet elevated, he orders a small Spatula [*ὀπίσκειπτερον*] to be passed thro' the Perforation, and the Skin to be let go. Then, in the Middle, between the two Perforations, a small red-hot Iron is to be pass'd through the Integuments, till it reaches the subjacent Spatula: By this means three different Parts may be cauteriz'd, without any Danger of injuring the Parts lying under the Integuments: But, in the Cure, the Eschars will be separated, and the Integuments again united. But, in consequence of the Loss of Substance produced by the Cautery, 'tis obvious, that the Cicatrices will be corrugated and hard. For this Reason he ordered, that through the whole Course of the Cure the Arm should be lifted no higher, than the Cure of the Ulcers rendered necessary; for, since by this means the Integuments are not distended, the Margins of the Ulcers will grow more firmly to each other. And, after the Ulcers were cured, he ordered the Arm, for a long time, to be ty'd to the Side, with a View to render the Cicatrices more firm, and to contract that Space into which the Head of the Humerus used to fall down. He also specify'd two other Parts, in which the Use of the actual Cautery might be beneficial in this Case; that is, upon both Sides of the Head of the Os Humeri, between this and the Tendons of the pectoral Muscle, and the Latissimus Dorsi, which are the Cords, on each Side, that form the Cavity of the Axilla.

Doctor *Van Swieten* informs us, that he knew this Method of cauterizing try'd by a Quack, for the Cure of Hernias, after the Reduction of the Viscera, because he imagin'd, that the Integuments contracted by a profound Cicatrix would not be afterwards easily extended. *Van Swieten in Boerh. Aph.*

When a Bone is removed, in such a manner, out of its natural Articulation, as to have its Function and Use destroy'd, that Bone is said to be luxated or dislocated. Thus, when the Head of the Humerus slips, or is by any external Violence forced, out of the Glenoide Cavity of the Scapula, or the Os Femoris out of the Acetabulum, it is term'd a Luxation, or Dislocation. This Accident, therefore, can properly happen only to Bones which have moveable Joints or Articulations; though, in a less accurate Manner of speaking, it is called a Luxation, when the Bones of the Nose, or the Epiphyses in Children, separate, and thence lose their natural Uses.

Those who would be well versed in the Knowledge and Cure of Dislocations, should have a very distinct Idea of the Figure of all the Articulations, with their Ligaments and Muscles: And this may be acquired by an Intimacy with Books of Anatomy, but much better by a frequent and diligent Inspection into Skeletons, and recent Bodies; for the latter will furnish us with the Ligaments and Cartilages in their natural Situations, which are not to be found in Skeletons.

Luxations are divided into Perfect and Imperfect. In the Imperfect, the Bones are removed in Part only, yet disqualified for performing their proper Office: Some call this a Subluxation, or Distortion. But, in the perfect Luxation, the moveable Bones are entirely displaced from their Junction with each other, as when the Humerus, or Femur, are removed quite out of their respective Sinuses. In either of these the Bone may slip out, either internally or externally, behind or before, upwards or downwards. Another Division of Luxations is, into simple and compound: The latter is attended with a Wound, Fracture, Weakness, and Retention of the Ligaments, Contusion, or violent Inflammation; the former is free from any of these Symptoms. Lastly, they are Recent, or of long Standing. It is to be observed, that the more free and moveable the Articulation, the more easy it is to be dislocated.

So much for the Disorder in general. We shall now describe each particular Kind, beginning with the Head, which is supposed to be luxated, 1. When the Bones of the Nose are separated. 2. When the lower Jaw is protruded forwards; for the Prominence of the Os Petrosium prevents it from being forced backward. 3. When the Head, with the superior Vertebrae of the Neck, is distorted. Lastly, and which has frequently occurred to Physicians, when the Bones of the Cranium are divided from each other by Pain, a Fever, or an Hydrocephalus.

The Vertebrae which compose the Spine, are seldom perfectly luxated. But the Vertebrae of the Neck, being small, and very moveable, are more subject to Luxation, than those of the Breast or Back, which are larger, and more strongly connected

together; whilst those of the Loins are, again, more subject to be luxated than those of the Back, because they are more moveable and smooth, are destitute of those Sinuses with which the Vertebrae of the Back are furnish'd, and have a thicker Cartilage interposed betwixt each. Lastly, the Os Coccygis is sometimes protruded outwards by a difficult Birth, and sometimes repressed inwards by a Fall: By which means it compresses the Rectum, and excites many troublesome Complaints.

As the Bones of the Breast are various, they may be variously luxated. Thus the Ribs may, by a violent Fall or Blow, be displaced, and forced into the Thorax, to the great Prejudice of the Motion of the Breast and Lungs. Sometimes the Xiphoid Cartilage may be depressed by Violence, and injure the Stomach. The Clavicles, also, may be removed out of the Sinus of the Scapula; or, what is more common, out of the Sternum: By which Accident the Arm is loosened, and its Motion obstructed.

The Os Humeri is the most subject to Dislocation, of any Bone, partly from the Shallowness of the Glenoide Cavity, and partly from the Freedom of its Motion. It may slip out either before, behind, or downwards, but never upwards, unless the Acromion is fractured; for that keeps down its Head very firmly.

Though the Cubit is subject to different Luxations, it seldom undergoes any without extraordinary Violence; and then it is generally imperfect, because it is defended, both externally and internally, by a large Articulation, and short Ligaments, while the Process of the Olecranium prevents it from being dislocated forwards. However, it easily and frequently slips out backwards.

The Wrist is very seldom removed from the Bones of the Cubit, and, when it is, the Dislocation is generally imperfect, from the Shortness and Strength of its Ligaments. But, if this Accident happens, it is rather anteriorly or posteriorly, than internally or externally; for there is a bony Protuberance on each Side of the Carpus, where it is articulated to the Radius and Ulna, which defends it from a lateral Dislocation. The Bones of the Wrist are sometimes subluxated, or distorted from each other, which usually produces a Distortion and Stiffness of the Hand: So may the Bones of the Fingers be displaced, but they are more readily reduced and cured.

In the lower Extremities, we will first consider the Luxation of the Thigh. This may be upwards, downwards, forwards, or backwards; and each of these Ways may be distinguished from the rest, by the different Figure about the Articulation, and the Length of the Limb. We must observe once more, that the Head of this Bone is not so often forced out of the Acetabulum by external Violence, as the Generality of Surgeons have imagined. For the Moderns, contrary to the Opinion of their Predecessors, generally find the Neck of the Thigh-bone fractured; which is not to be wondered at, since the Head is received into so deep a Cavity, and secured by such strong Ligaments, that it cannot be displaced in a dead Subject, by the most robust Man; and the Neck of this Bone is, at the same time, very slender and brittle, so that a much less Force is required to break it, than to displace the Head. Probably the Thickness of the Muscles about this Articulation, as it prevented a Fracture of the Neck from being distinguished from a Luxation of the Head of the Thigh-bone, gave Rise to the Mistake of former Surgeons, relative to this Subject.

From hence we may plainly find the Reason of the ill Success attending the Antients, in their Reduction of this imaginary Luxation; nor can we be at a Loss to know, why they invented so many Machines for the Extension of this Limb, by the Use of which, as it was no Dislocation, but a Fracture, they excited violent Pains, Convulsions, Inflammations, Abscesses, and other dangerous Symptoms; whilst nothing is more certain, than that this Bone is very rarely luxated by any external Force; for it is scarce possible the Head should slip out of the Acetabulum, unless the Ligaments are previously relaxed by a Collection of noxious Humours near the Joint, which Children are more subject to than Adults.

Ignorant Surgeons very frequently mistake a Dislocation of the Patella for that of the Joint at the Knee, and, consequently, torment the Patient with superfluous Extensions; whereas, to one skilled in Anatomy, both the Sight and Touch will be sufficient Guides: For the Patella is always luxated, either internally or externally; but the Knee itself, tho' it may be forced either Way, seldom suffers a perfect Luxation, because the Articulation is deep, and the Ligaments strong.

The Foot may be thrust out of the Sinus of the Tibia, either before or behind; but it is defended laterally by the Anclae, and cannot be displaced there, unless they are fractured at the same time. We read in some Authors, that the Fibula may be separated from the Tibia by some extraordinary Violence, and the Foot at the same time turned outwards. The Bones of the Tarsus are connected by very firm Ligaments, and cannot be easily dislocated; but, when they are, it is followed with exquisite Pains, Convulsions, Inflammations, and Sphacelus, unless timely relieved. Lastly, The Toes are seldom luxated; but when they are, they must be treated like the Fingers.

The Causes of Luxations are either external, as Falls, Blows, Leaps, Strugglings, and Distentions; or internal, as preternatural Collections

Collections of morbid Humours in the Joints, which relax the Ligaments to that Degree, that the Heads of the Bones slip out spontaneously; or from a very inconsiderable Violence, as rising up, walking, or leaping. The weakest Men are most subject to this; for which Reason the Bones of Infants are very easily distorted, and divided from their Epiphyses by a Fall, or rough Handling. It is remarkable, that *Zwinger* knew a lame Woman, who bore three lame Sons. *Theat. Pract.* P. 2. pag. 109.

The Signs of Luxations are many and various: 1. A Deprivation of Motion in the Joint. 2. A Change of the Figure, and natural Position. 3. Unusual Cavities and Tumors; for there will always be a Tumor on that Side where the Bone is forced; and an Hollowness on that from whence it was forced. 4. A different Length of the Limb, which is shorter, when the Bone is protruded upwards; and longer, when it is pushed downwards. Lastly, The Pains arising from a violent Distension of the Ligaments; for, unless the Luxation is immediately reduced, there must necessarily follow Convulsions, Inflammations, Sphacelus, and Death itself; though, when it proceeds from internal Causes, scarce any Uneasiness attends it. In the mean time, to make a more ready Discovery of Dislocations, it will be proper to observe this Rule, that, when the Head of any Bone is removed out of its Place, the other End will be distorted in an opposite Direction; for, when the superior Extremity of a Bone is forced outwards, the inferior will incline inwards; and, when the superior Part is forced inwards, the inferior will be distorted outwards.

Tho' these general Signs of Luxations may be sufficient for an able Surgeon, yet we ought not to be ignorant of those peculiar to some only: Thus, in a Dislocation of the lower Jaw, the Mouth cannot be shut. When a Vertebra is displaced, the Parts below it are deprived of Motion and Sense; for, by every such Luxation, the Spinal Marrow, which is transmitted through their Middle, is compressed or wounded, and the Course of the Spirits through that, and its Nerves, to the lower Parts, disturbed, or absolutely intercepted. In a Luxation of a Rib, the Breath is drawn with Difficulty, and other bad Symptoms appear. But each particular Disorder may be deduced from the Action of each particular Part.

In an imperfect Luxation from external Violence, the Patient feels most acute Pains, and the Limb becomes immoveable, without any great Change in its Figure or Position; though, upon a more accurate Examination, there may be generally found some little Inequality of the Articulation or Limb.

Luxations from internal Causes may be known by these Signs: 1. The Limb is so relaxed, that it may be easily turned about in any Direction. 2. There is a Cavity about the Joint, and an Hollowness between the Bones, which may be felt with the Fingers. 3. The dislocated Bone may be easily replaced, but soon slips out again spontaneously, because of the Weakness of the Ligaments and Muscles. 4. It is longer than the sound Limb. 5. No Pain, Inflammation, or Convulsion, attends a Luxation of this Kind. Lastly, This generally happens to the upper Part of the Femur or Humerus, and sometimes in the Articulation of the Foot with the Tibia.

The Surgeon, who would be well versed in the Prognostics relative to Luxations, should make himself perfectly acquainted with the Structure of the Part affected, and the Causes and other Circumstances of the Disorder: For Luxations which are imperfect and simple, are cured with much more Ease than those which are perfect, or complicated with Wounds, Inflammations, Fractures, and Convulsions; and the more the Bones are removed from each other, and the worse the Accidents attending, so much the more difficult is the Cure; so that they cannot sometimes be reduced, by reason of a violent Inflammation and Fracture; nor, after Reduction, be retained in their proper Place, by reason of a Weakness in the Ligaments: The last is most usual in Luxations from internal Causes; and, when it happens in young Subjects, the lower Part of the Limb generally wastes, and becomes flaccid and weak. Recent Luxations are more easily cured than those of long Standing; for, in the latter, Tumors, Inflammations, and a copious Collection of Humours, weaken the Ligaments, and fill up the Cavity of the Articulation, so that the Head cannot be replaced in its Socket, but sometimes lodges in a new external Part of its Sinus; as when the Head of the Thigh-bone adheres and grows to the external Part of the Os Coxæ, or of the Acetabulum, the Cavity itself being filled up with some preternatural tenacious Juice.

If a Bone is dislocated in Infants, or an Epiphysis is separated from it, the Case is very dangerous: For, 1. The tender, cartilaginous Head of the Bone is so distorted, that its natural Figure can seldom, if ever, be restored. 2. The Accident is too often concealed by Servants and Nurses; and, consequently, the Cure is not attempted, till it is too late. 3. The Surgeon, not apprised of the true Cause, may treat it as a Desluxion of Humours on the Joint, whilst the tender and cartilaginous Parts grow distorted, and in a very unnatural Position. Lastly, The Ignorance of the Surgeon himself may mislead him in the Reduction; for a violent Distension of those soft Bones, and their Epiphyses, will add Misfortune to Misfortune.

THE CURE OF LUXATIONS.

The Method of treating Luxations is very near the same with that of Fractures; for in both the whole Design is, 1. To replace the Bone by Extension and Reduction. 2. To retain it in its natural Position. 3. To prevent the consequent Symptoms. The Reduction should be performed, when the Patient is placed on a Stool, Table, Bed, or the Ground, as the Surgeon shall judge most convenient; tho' Luxations of the Jaw, Clavicle, Cubit, or Hand, should be reduced on a Chair; those of the Vertebrae or Thigh, on a Table; those of the Legs or Feet, on a Bed; and, lastly, those of the Humeri, or Vertebrae of the Neck, on a Floor.

The Extension is perform'd much after the same manner, as in Fractures: An Assistant must distend the inferior Part of the Bone, till its Head corresponds with its Sinus. If this cannot be accomplished by the Hands, a Napkin will generally be sufficient to make a due Extension: The Machines, therefore, represented by *Oribasius*, *Paré*, *Scultetus*, and others, are very seldom necessary, but only terrify and discourage the Patient.

When the Limb is sufficiently distended, the Surgeon must compress the Articulation gently with his Fingers or Hands, till he finds the luxated Bone replaced.

It is an Indication of an accurate Reduction, if any Noise or Cracking is heard; if the affected Limb is of an equal Length with the sound; if the Pains abate; or, lastly, if it is restored to its former Motion.

Luxations cannot always be immediately reduced; for, when they are attended with Inflammations, Hæmorrhages, or Tumors, these Impediments must be removed by proper Remedies; and if the Limb be at the same time fractured, before the Extension is attempted, the Fracture ought to be united with a strong Callus; that is, if the Fracture happens to be so near the Joint, that the Reduction cannot be made without disturbing of it; but, if you have room to fix a Laque between the Fracture and the Joint, when the Inflammation or Tumor subsides, it would be proper to attempt the Reduction.

When the dislocated Bones are properly reduced, the Surgeon's next Care is to retain them in their proper Situation; and this may be compassed with less Difficulty than in fractured Bones; for Luxations seldom require any strict Bandage, or long Rest: Thus Luxations of the upper Extremities are generally held firm enough, after Reduction, by their own proper Ligaments and Muscles; and Inactivity is so far from being requisite, that the Limb ought sometimes to be gently moved and inflected, to prevent a Stiffness: But, when this happens in the lower Extremities, the Patient should rest some Days in his Bed, and not move the Limb, or attempt to rise and walk, till the Joint has recovered its usual Strength; and then it may be gently moved at first, and afterwards the Patient may rise and walk.

In a Luxation of long Standing, likewise, a Bandage and Rest are altogether necessary, till the former Vigour of the Ligaments is restored; though here, without a gentle Motion and Flexion, there will be Danger of a Stiffness and Concretion of the Joint. In the mean time, it will be proper to bathe the Bandages plentifully with Spirits of Wine, Hungary-water, or Spiritus Matriçalis, or some other warm strengthening Spirit, which will render the Ligaments very firm and strong. The Bandages should be neither too tight, nor too lax. The Application of Plaisters, mean time, is rather pernicious than servicable.

The Treatment of the Symptoms attending Dislocations, as Inflammations, Tumors, Pains, Convulsions, and Hæmorrhages, is the same as that directed under the same Circumstances, in Fractures and Wounds; but, after Reduction, they generally disappear insensibly. When the Ligaments are very much debilitated, it is extremely servicable, after having rubbed the Part well with warm Linen, to foment it with burnt rectified Spirit of Wine, and, after that, a Quantity of some strengthening Spirit, as directed in Fractures, applying a proper Bandage. A Continuance of Pain, after replacing the Luxation, gives some Reason to dread a concomitant Fracture; and if, upon Examination, this proves to be the Case, the Surgeon must reduce it. A slight Fever may be cured by Bleeding, cooling Medicines, and a thin Diet. A Gangrene must be treated not only with the Medicines already recommended, but, also, with Fomentations, and resolvent Cataplasms, securing them with the Eighteen-headed Bandage. For the Cure of other Symptoms, proceed as directed for these under the Article FRACTURA. If a Luxation is attended with a Wound, the Eighteen-headed Bandage is proper. An Abscess should be opened, as soon as it is ripe; for otherwise the Matter will corrode the Articulation or Bone, and produce a dangerous Fistula, which can be remedied only by Amputation. When the Bones are separated with such Violence, that the adjacent Ligaments, Tendons, and Skin, are broken and destroyed, the Case is then, according to *Hippocrates*, absolutely incurable; and they will be so far from uniting firmly, that an Attempt to reduce them will excite Convulsions, and a Gangrene: For the Preservation of Life, therefore, the Limb should be immediately amputated. When a Luxation is attended with
a Fracture

a Fracture, the Luxation should be reduced first, if this is possible, and afterwards the Fracture; but, if this cannot be done, proceed as directed under the Article FRACTURA. Lastly, When any Limb becomes rigid, it must be treated in the manner mentioned under the last quoted Article.

OF LUXATIONS IN PARTICULAR.

LUXATIONS IN THE HEAD.

A Separation of the Bones of the Cranium, either from an Hydrocephalus in Infants, or the Head-ach and Fevers in Adults, is by some termed a Luxation of the Head. For the Treatment of the first, see the Article HYDROCEPHALUS; and, as the other very seldom happens, it seems only curable by Compression and Bandage.

LUXATIONS OF THE NOSE.

A Luxation of the Nose is discoverable, 1. By the Eye, when we see the Figure of the Nose deformed: 2. By the Touch: Or, 3. By the Ear, when we hear the Patient draw his Breath with Difficulty. But this is an uncommon Accident; for the Bones of the Nose are so firmly connected to the Os Frontis, and other Bones, that they will sooner break, than separate.

With respect to the Cure, the Patient must be seated immediately on an high Stool, and an Assistant behind him must hold his Head firm, whilst the Surgeon with one Hand introduces a Probe, Goose-quill, or proper Piece of Stick, to raise up the separated Parts; and with the other directs them to their proper Places. After this, a sticking Plaster will complete the Cure. If it is attended with a Wound, it must be managed according to our Directions for a Fracture of the Nose, under the Article FRACTURA.

OF A LUXATION OF THE LOWER JAW.

The lower Jaw is very seldom luxated, because of the Strength of its Ligaments and Muscles, which retain it in the Sinus of the inferior Part of the Cranium; but, when it does happen, it may be on one Side, or both. The most usual Cause is too great Oscitation, tho' it sometimes proceeds from a violent Fall or Blow. If the Dislocation is on both Sides, the Chin inclines downward, and the Jaw is forced forward; if on one, the Chin inclines to the opposite Side; but the Processes of the Bones of the Cranium will not suffer it to be luxated backwards.

A Distortion of the Chin towards one Side shews, that the lower Jaw is luxated on the opposite Side; for the Part to which the Chin inclines, is found; but that from whence it recedes, is dislocated: The latter, too, gapes wider, and disables the Patient from shutting his Mouth, and chewing with his Teeth, as the lower Range of them projects beyond the upper. When the Luxation is on both Sides, the Mouth not only gapes wide, but the Chin is pressed forwards; and, of consequence, the Patient can neither shut his Mouth, speak distinctly, nor swallow easily.

A Luxation on one Side may be remedied without any great Difficulty; but, when both are dislocated, and not immediately replaced, dangerous Symptoms, as Pains, Inflammations, Convulsions, Fevers, Vomitings, and, at last, according to *Hippocrates*, Death itself, ensue; and this Danger is in proportion to the Violence of the Extension of the Nerves, Tendons, and Ligaments; tho' the timely Assistance of an expert Surgeon will overcome all these Difficulties.

The Patient must be seated on a low Chair, and an Assistant hold back his Head firm against his own Breast; then the Surgeon must put both his Thumbs, wrapped in Linen, that they may not slip, or be hurt, as far as he can, into his Mouth, and apply the rest of his Fingers externally. When he has fast Hold of the Jaw, he should press it, first, downwards; then, backwards, and lastly, upwards: All this, performed in an Instant, will complete the Reduction. Let him always withdraw his Fingers out with the utmost Expedition, lest they should be compressed, bit, or bruised.

If the Jaw is dislocated on one Side, he must proceed in the same manner; only the affected Part must be pressed more strongly downwards, and backwards, than the other. Some are for performing this Cure by a severe Blow on the opposite Cheek. Bandages seem absolutely unnecessary, except the Luxation is of long Standing; and then the Four-headed Bandage, with some strengthening Spirit, may be applied for several Days, and laid aside, whilst the Patient eats.

LUXATIONS OF THE VERTEBRÆ.

Luxations of the Spina Dorsi, or Vertebrae, from their Structure and Articulation, must be imperfect, unless attended with a Fracture, and an Hurt or Laceration of the Spinal Marrow, which threatens instant Death. And indeed the imperfect Luxations themselves are extremely dangerous, and happen either between the two superior Vertebrae of the Neck and the Head, or between the other Vertebrae.

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A Luxation between the Head and superior Vertebra is immediate Death: For the tender Medulla, which is in the Spine, and connected to the Brain, the Brain itself, and Nerves under the Occiput, are too much distended, compressed, or lacerated. The Processes of the Head generally slip out of their two Sinuses, when a Person falls headlong from an high Place, a Ladder, or an Horse, or when he receives a violent Blow upon his Neck; and he is vulgarly said to have broke his Neck, though it is seldom any more than a Luxation: Yet there may be a real Fracture of the Vertebrae of the Neck. If a Man has any Life remaining after such a Luxation, which seldom happens, his Head is distorted, and his Chin fixed to his Breast, which prevents his swallowing, speaking, or moving the Parts below his Neck. The Compression or Hurt of the Medulla, therefore, without speedy Help, causes present Death.

The Patient must be immediately laid on the Ground or Floor, in such a manner as the Surgeon may put his Knees on the Patient's Shoulders, and then make a proper Extension, gently turning the Head from Side to Side, till a Noise, or the natural Position of the Neck, or a Remission of the Symptoms, convince him that the Luxation is reduced. Here the Knees hold the Patient firm, while the Hands perform the Extension and Reduction. These are *Heister's* Directions; but I should think the best Way is to lay the Patient flat, and the Surgeon to sit down, and place his Feet on the Patient's Shoulders, and so extend.

The Patient may be seated on the Ground, and an Assistant keep down his Shoulders firmly, while the Surgeon takes Hold under his Ears, pulls up his Head strongly, but cautiously, inclining it to each Side, till the above-mentioned Symptoms shew it to be replaced. The other Vertebrae of the Neck may be treated in the same manner.

Petit has contrived another Method, though he does not say he ever practised it: He forms two Strings, with a large Aperture about their Middle, (see *Tab. XXXI. Fig. 1, 2.*), one of which (*Fig. 1.*) he throws over the Patient, as he lies on his Back, in such a manner that his Head is transmitted through the Opening A B, the Part A comes under his Chin, B under his Occiput, the two Extremities C C are extended over his Ears, and the Extension is perform'd by D E. The other (*Fig. 2.*) he recommends to keep the Patient firm; through the Aperture F he transmits the Head, G comes down the Back, H over the Breast, and the two Ends I I are joined between the Thighs, which prevents the Body from yielding to the Extension of the former. When the Head and Neck are sufficiently extended by the opposite Direction of these Slings, the Surgeon endeavours to restore the Luxation. But, to confess the Truth, I must prefer the foregoing Methods; partly, because they are more simple; and partly, because they are more expeditious; for while this Machinery is fetching, and adapting, the Patient may be dead. *Petit* proposes no other Method through his whole Book, nor does he substitute any thing in the room of these, when they may be wanting, though, I think, Napkins or Pieces of Linen, two or three Hands broad, perforated in the same manner, will answer the same Purpose.

After Reduction, the distended Ligaments may be restored to their former Strength, and a Tumor prevented, by bathing with Hungary-water and Camphire, Opodeldoc, Aqua Anhalatina, or some other strengthening Spirit, applied warm, by means of Compresses impregnated therewith. Rest is proper, till the Neck becomes sufficiently strong. The only Use of Bandages is to retain the Compresses.

The Vertebrae of the Back are seldom removed quite out of their Places, without a Fracture, but generally adhere to those next them. These Luxations, therefore, are, for the most part imperfect; for only their upper and lower Apophyses, and sometimes only one of them, are displaced; sometimes only one Vertebra, sometimes more, are luxated; though the intermediate Vertebrae, betwixt two that are luxated, are reckon'd in the Number of those luxated, tho' they are really in their proper Situations. Thus, when the uppermost Vertebra of the Loins is divided from the lowest of the Back, and the lowest Vertebrae of the Loins from the Os Sacrum, we commonly say, that five Vertebrae are dislocated, when, strictly speaking, the two exterior only are out of their Places.

The Vertebrae of the Spine cannot be luxated without a very extraordinary Violence; for they are not only united closely by their Apophyses, but very firmly connected by exceeding strong Ligaments and Cartilages: For this Reason, neither a violent Flexure of the Back, nor a Fall or Blow on it, will remove them, unless the Cartilages or Ligaments are broken; but rather join them more strongly; though, when this happens, it lacerates the Vertebrae, and Spinal Marrow, and quickly kills the Patient. When a Vertebra, therefore, is luxated without a Fracture, the Body must incline much forwards, or to one Side; for, upon these Occasions, the superior Processes recede from the inferior, and, consequently, they may be removed with more Ease from each other: When the Left Side is affected, the Patient bends towards the Right, and *vice versa*.

The common Signs of Luxations in the Spina of the Back are the following: The Back is crooked and unequal; the Patient can neither stand nor walk; and his whole Body seems paralytic. All the Parts below the Luxation are insensible and immoveable; the Excrements and Urine cannot be discharged, or sometimes they are emitted involuntarily; the lower Parts die gradually, and, at length, Death itself ensues. But these Symptoms are proportionable to the Violence of the Disorder.

The Number of the luxated Vertebrae is discoverable by the preternatural Incurvation; for, when one only is displaced, the Incurvation forms a kind of Angle. If the Apophyses of the Vertebrae are moved forward, the Spina Dorsi will incline the same Way, and the Patient suffer exquisite Pain, by bending his Body, which will be less, when he lies on his Back: If the Vertebra is forced to the Right Side, the Body will incline towards the Left, and be easier bent towards the Right, than the Left Side; and the contrary, if the Vertebrae are forced towards the Left Side.

As to the Prognostic in these Luxations, they are all extremely dangerous, both on the Account of the Injury the spinal Marrow may have received, and, also, because of the Difficulty of reducing the Vertebrae; and the more the latter are separated, the more will the former be injured, the consequent Symptoms worse, and the Patient's Death more certain. The Danger, likewise, is greater, the nearer the dislocated Vertebrae are to the Head; for a Wound of the spinal Marrow in those Parts is both soonest inflicted, and attended with the worst Consequences. Luxations, therefore, in the Neck, are more pernicious than those in the Back; and those in the Back more dangerous than those in the Loins. And, what may seem wonderful, the Symptoms are milder, where several Vertebrae are luxated, than where one alone is out of its Place; and the Case is less dangerous, when both the Apophyses are displaced; for, when this happens only to one, the spinal Marrow is more injured; but, in slight Luxations, the Vertebrae may be more easily reduced, and the Danger is not so great.

Since the Instruments used by the Antients appear to have been rather injurious than serviceable, the following seems the most suitable Method for reducing these Luxations. When both the Apophyses of the Vertebrae are dislocated, the Patient must be laid on his Belly cross a Tub, Drum, or some other gibbous Body; then two Assistants are to depress both Ends of the luxated Spine, on each Side, which elevates, and gradually extends, the Vertebrae, the Spina Dorsi being thus bent in form of an Arch: After this the Surgeon presses down the inferior dislocated and prominent Vertebra, and, at the same Instant, expeditiously pushes the superior Part of the Body upwards. If the first Attempt fails, it should be repeated two or three times. *Petit* lays a thick Cloth rolled cylindrically across the Bed, and, placing the Patient over it, treats him in the preceding Manner. When the Left Apophysis only is displaced, after the Patient is laid in the same Posture, one Assistant may depress the Left Coxa, and the other the Right Humerus, provided the Apophysis on the Left Side is luxated; but the Reverse, if the Injury is on the other Side. This certainly is the properest Method, if there is really any, for reducing the Luxations of the spinal Vertebrae. For the rest, Compresses, moistened with Spirit of Wine, or Spirit of Wine camphorated and warm, should be applied, with the Napkin and Scapulary: The Patient must be laid in a soft, even Bed: Bleeding, and bathing the weak Parts with warm strengthening Spirits, will be of Service; the Bandage must be seldom removed, and the usual Symptoms must be palliated, till the Cure is completed.

LUXATIONS OF THE Os COCCYGIS.

The Os Coccygis may be forced internally by a violent Fall or Blow, and externally by a difficult Birth: This Accident is accompanied with acute Pains in the lower Part of the Spine, Inflammations, and Suppurations of the Rectum, and a Suppression of the Urine. These Symptoms, with the Sight and Touch, will discover this Luxation, which may be easily reduced by an expert Surgeon; for the Thumb alone, by Pressure, will replace an external Dislocation. After this may be applied Compresses, dipt in warm Wine, or its Spirit, narrow below, and broad above, to fill up the Sinus of the Podex: These are to be secured by the T Bandage (*Tab. XXIII. Fig. b*): But the Part between the Thighs should be slit, and so fastened, that the Patient may go to Stool, without loosening it; and thus a Relapse may be prevented.

For an internal Luxation of the Os Coccygis, the fore Finger, being dipt in Oil, after paring the Nail, should be introduced, as high as possible, into the Anus, to thrust outwards the depressed Bone; whilst the other Fingers, applied externally, guide it to its proper Place. The Patient should rest for some time on his Bed, and, when he rises, sit in a Chair, with a Hole in the Bottom, that the affected Part may not be compressed or disturbed.

LUXATIONS OF THE RIBS.

The Ribs are seldom dislocated; but an external Violence will sometimes remove them downwards, upwards, or inwards; for the Processes of the Vertebrae, with the thick, strong, adjacent Muscles, prevent a Luxation outwards. If the Ribs are forced

inwards, both the Pleura, and the internal Parts of the Breast, are injured; from whence proceed excruciating Pains, Inflammations, Difficulty of Breathing, Coughs, Ulcers, Immobility of the Body, and other such dangerous Symptoms. These, with the external Form and Position of the Side, evidently discover this Misfortune.

The Reduction should be undertaken immediately; and, when the Dislocation is upwards or downwards, the Patient must be laid prone on a Table, and the Rib replaced by the Hands; or the Arm of the affected Side may be suspended over a Door or Ladder; and, while the Ribs are thus distended, the luxated Heads may be reduced.

Internal Luxations of the Ribs are not easily reducible, because neither the Hands, nor any other Instrument, can be applied to elevate them; though I do not think them absolutely incurable: For, by laying the Patient on his Belly, either upon a Table, or over some gibbous or cylindric Body, moving the anterior Part of the Rib towards the Back, and shaking it sometimes, the Head may probably recover its former Situation. If this fails, and speedy Assistance is necessary, recourse must be had to the severe Method proposed for fractured Ribs under the Article FRACTURA. In the mean time, where the Symptoms are not very bad, nor the Heads of the Ribs much removed from their proper Situations, we may forbear the Incision of the Flesh, and a violent Compulsion of the Ribs, as luxated Ribs have often remained so without any Danger. The Part must be dressed with Compresses dipt in warm Spirit of Wine, or Spirit of Wine camphorated; and these must be secured by the Napkin and Scapulary.

For Luxations of the Clavicles, see CLAVICULA.

LUXATIONS OF THE HUMERUS.

The Humerus is the most subject of any Bone to a Dislocation; because its Ligaments are lax, its Motion large, and the Glenoid Cavity of the Scapula but shallow. This Bone sometimes slips out under the Axilla, forwards and backwards, even under the very Scapulae; but very seldom directly downwards, and never upwards, unless the Acromion and Coracoid Processes are fractured at the same time; for whilst these, with the strong Deltoide and Biceps Muscles, remain entire, they keep down the Humerus, and strongly resist a Luxation upwards.

When the Humerus is luxated downwards, 1. There is a Cavity in the superior Part, perceptible to the Finger, and a Tumor under the Arm-pit, because the Head of the Bone is lodged there. 2. The Acromion, on account of the adjacent Sinus, is more prominent than ordinary. 3. That Arm is longer than the other; and, when it can be moved or extended, gives exquisite Pain in lifting it up to the Mouth. When it is luxated forwards as well as downwards, there is the same Cavity under the Acromion; but the Head projects towards the Breast under the Axilla, and the Arm cannot be moved without acute Pains. Lastly, when it is luxated backwards, the Cubit approaches the Præcordia, and the Head of the Bone is prominent on the Outside of the Shoulder. The Arm cannot be extended, or even moved from the Breast, without great Agony. A Dislocation forwards or inwards is the most dangerous, because the luxated Head of the Humerus injures the great Arteries and Nerves of the Arm.

Recent Luxations of this Kind may be easily reduced, especially if they are perpendicularly downward or backward, or the Arm retains its natural Length; but, if they happen inward, under the pectoral Muscle, or the Arm is shorter, or the Disorder of long Standing, or attended with Tumors, Inflammations, or a Fracture of the Acromion, the Limb cannot be restored to its former Vigour without great Difficulty. But, when the Head of the Humerus grows to the adjacent Parts, particularly under the Arm, it is reducible by no means whatever. The Reduction, likewise, is more difficult in strong and fat Subjects, than in those who are lean and weak.

As soon as the Luxation is discovered, the Patient should be seated on the Floor, or a low Stool (*see Tab. XXXI. Fig. 3.*); one strong Assistant B is to hold his Body firm, that he may not yield to the Extension; and another C to fix both his Hands a little above the Cubit, extending it strongly and gradually: But, before the Extension, the Surgeon D should suspend a large Napkin, of a sufficient Length, and tied in a Knot about his own Neck, in such a manner, that the Knot may hang behind, and the Part E over his Breast; through this he should transmit the Arm up to the Axilla, and, taking the Humerus in his Hands, order the Assistant to extend the Limb, while he elevates the Head of it with the Napkin, and directs it with his Hands into the Sinus of the Scapula. I would advise him to move the Humerus discretionally, in different Directions, according to the manner of the Luxation; for, by this means alone, I reduced three Dislocations in one Month.

Though the preceding Method seems the most ready and commodious, it is not always sufficient, especially when the Patient is robust, or the Disorder of long Standing: In these Cases, therefore, it will be proper to substitute more Hands, applying a long Napkin, or the Belt of *Hildanus*, (*see Tab. XXXIX. Fig. 17.*) to the Os Humeri, a little above the Cubit; and ordering

as many Persons as are necessary, to extend the Limb. The Resistance ought to be proportionably greater than the Extension. The Patient, therefore, should be retained by two Assistants; and, when they are insufficient, the Humerus should be put through a perforated Piece of Linen up to the Scapula, one half coming over the Patient's Breast, the other behind the Back, and the Ends tied in a Knot. This is to be held by some Assistants, or fastened to a Beam, or any other fixed Point, to secure the Patient from giving way. While this is doing, the Surgeon must very accurately elevate, agitate, and restore, the luxated Limb. When this will not make a sufficient Extension, the Pulley (Tab. XXIX. Fig. 15) will be proper to extend the Arm, as in a Fracture. See FRACTURA.

For the Method of reducing this Luxation by the Ambe, see AMBE.

There are many other Contrivances, both antient and modern, for this Purpose: The former are described and delineated by Orsabus, Paré, Gersdorff, Brunsvigius, Scultetus, and others: The latter are published in the *Act. Erudit. Junken, Purman, and Petit*. And, though each Inventor prefers his own, there are French Surgeons, who pronounce them all unnecessary, or more improper than the Ambe of Hippocrates. Others, with Gouey, esteem all Machines, except the Hands, Napkins, or Slings, absolutely unnecessary.

However, since *Petit* has acquired so great a Character in his Profession, it will not be amiss to give a brief Description of his Machine (see Tab. XXXI. Fig. 6.). *Petit* contrived a Machine to make an Extension, and a Resistance, at the same time: With this View he made a Supporter of strong Linen, or Fustian, a Foot long, and lined with Leather (see Tab. XXXI. Fig. 7.). He puts the Arm through the Aperture A, so that one End B comes over the Breast, the other C over the Back. He lets the Horns of the other Machine (Fig. 6. a a) into the Holes D D; and the other Extreme of Fig. 6. B is lodged upon the Ground. In this Machine there are several little Pulleys C C, as in the Polyastion, with the Rope d d; there is, besides, a moveable Handle, by which the Pulleys and Cords are stretched, and the Arm extended. To promote this Extension, he fastens a peculiar Sling, (A A Fig. 8.) made of double and soft Leather, a little above the Cubit, having first pulled the Skin upwards: This he secures by a Silk Cord, three quarters of an Ell long, b b, sew'd in a peculiar manner to the Leather, and fastened with a Knot. To this Silk Cord he fastens another c d e, by two moveable Loops f f, to which is joined the Cord d d, Fig. 6. which passes round the Pulleys (Fig. 6.). After this Apparatus, he orders the Assistant to wind up the Rope by the Handle E, (Fig. 6.) which extends the Arm; and, at the same Instant, the Surgeon directs the Head of the Bone to its former Place, if it does not spontaneously recover it.

But, to speak impartially, I think the Hands and Napkin, with strong and prudent Assistants, are generally sufficient, tho', if any one will use other Methods, let him chuse that which extends the Limb sufficiently, and stretches the Muscles equally. Upon this Principle we may the better judge, whether the Ambe of Hippocrates be proper; or the more precarious Way of pulling and extending the Arm over a Door, Ladder, or Beam laid cross the Shoulders of two strong tall Assistants; or whether we should order a Person to sit down, and raise himself up expeditiously, taking the Patient's Arm over his own Shoulder; or, placing the Patient on the Ground, put a Foot, or Ankle, under his Humerus, and pull it up with Violence. But here the utmost Care is required to prevent a Contusion or Rupture of the Muscles, Nerves, Veins, and Arteries, by a too violent Extension and Reduction; for that such Accidents are frequent, *Paré* and others testify. The Surgeon's Business, therefore, is, to order a strong, but equable, Extension.

LUXATIONS OF THE CUBIT.

The Cubit consists of two Bones, the Radius and Ulna, which are articulated by a Ginglymus. These Bones are so connected, that the Ulna, or Cubit, being the largest Bone, and seated in the lower Part of the Arm, performs the whole Action of Flexion and Extension, but not without the Radius; so that the Radius always follows the Motion of the extended and inflected Ulna. On the contrary, the Radius will move internally or externally, with the Hand, without any Motion or Flexion of the Ulna. Both these Bones are so connected to the Os Humeri, that large Processes are received into deep Cavities, and secured with very strong Ligaments. Though the Cubit, therefore, may be luxated outward, inward, forward, or backward, it is seldom perfectly dislocated, unless the Olecranon is fractured, or the Ligaments weakened by some extraordinary Violence.

If the Cubit is luxated backwards, which is most frequent, the Arm becomes crooked, and shorter, and cannot be extended; in the internal Part of the Flexure, the Humerus will be prominent; in the external, the Olecranon, with a large Cavity between both Bones. On the contrary, the Size of the Olecranon will scarcely admit of a Luxation of the Cubit forwards, unless that be fractured at the same time; but, when this is the Case, the Os Humeri will stick out behind, and the Ulna be-

fore, with a Sinus proportionable to the Degree of the Luxation. When the Luxation is external, the Tumor is so too, and *vice versa*. In a Word, unless the Ligaments and Muscles of the Cubit are entirely broken, that Bone is incapable of suffering a perfect Dislocation. But either of those Accidents are discoverable to the Sight and Touch.

Since in violent Luxations of the Cubit the Ligaments and Tendons must be greatly strained, the necessary Consequence, without timely Relief, will be acute Pains, Tumors, Inflammations, Convulsions, Vomiting, Fevers, Gangrene, and Death itself, as *Paré* observes. And, to confess the Truth, in a violent Disorder of this Kind, or one of long Standing, the Bone cannot be replaced without great Difficulty, by reason of the strong Ligaments, and various Processes. The slighter, however, the Luxation is, and the more recent, the less Difficulty there is in reducing it.

The Patient must be seated in a Chair, and two strong Assistants must extend the Humerus and Cubit, till the Muscles are sufficiently distended, and there appears a free Space between the Bones: Then the Surgeon must reduce the Bone with his Hands alone, or with them assisted by Bandages; and immediately bend the Elbow, that the Processes may return to their Cavities. But, if the Tendons and Ligaments cannot be sufficiently extended, he should apply emollient Oils, Ointments, or the Fat of Animals, or relaxing Fomentations and Cataplasms. When the bare Hands are insufficient for the Extension, he may use the Machines and Methods proposed in case of Fractures.

After Reduction, the Bone should be secured with a Bandage, and the Arm suspended in a Sling about the Neck. But *Hippocrates* advises neither to retain the Bandage too long, nor keep the Arm entirely without Motion; for, by an Inspissation of its Mucilage, the Joint would become rigid and immoveable: The Bandage, therefore, ought to be loosened every Day, or every other Day, and the Cubit gently inflected different Ways; after which, hot Compresses, dipt in burnt Wine, may be applied, and secured with Bandages, till the Ligaments and Articulation recover their former Vigour.

LUXATIONS OF THE HAND.

Though the Hand is very accurately connected to the Bones of the Cubit, particularly to the Radius, by the Carpus, and strong Ligaments; yet it is liable to a Luxation in all the four Directions. But this usually happens forward or backward, because the great Processes of the Ulna and Radius defend it on each Side. The Hand is said to be luxated forwards, when it inclines towards the Flexor Muscles of the Fingers; backward, when it tends towards the Extensor Muscles; outwards, when there is a Tumor near the Thumb, and a Cavity near the little Finger; and inwards, when the Reverse happens. From these Observations we may easily discover a Luxation of the Hand.

This Disorder, from the violent Distortion of the strong Ligaments, must be attended with exquisite Pains, and a Rigidity of the Fingers, which can neither be bent nor extended, by reason of the Compression of their Tendons. From hence will follow an Inflammation, Tumor, Abscess, Gangrene, Sphacelus, and Caries of the spongy Bones of the Carpus, which are seldom curable but by Amputation. In a recent inconsiderable Luxation, a milder Practice will complete the Cure.

This Dislocation, therefore, should be speedily reduced, 1. By ordering one Assistant to hold the Hand, and another the Arm, and so pull in different Directions. 2. By placing the Sinus of the extended Hand on a Table, or some other flat Body, that the Tumor may be depressed. This will be effectual, in whatever Part the Hand is luxated.

LUXATION OF THE CARPAL BONES.

One or two of the carpal Bones are sometimes removed from their proper Place, which is discovered by a Tumor in one Part, and a Cavity in another, perceptible to the Touch: It is likewise accompanied with violent Pains. This Luxation, if recent, is to be treated as a Luxation of the Hand.

LUXATION OF THE METACARPUS.

The four Bones of the Metacarpus may, by external Violence, be separated from the Carpus, to which their superior Parts are connected. But this cannot happen in all the Directions; for the two middle Bones cannot be forced to either Side, nor the two external ones thrust inward, though each of them may be luxated forward or backward. This may be discovered by the Sight and Touch, and must be cured in the same manner as Luxations of the carpal Bones.

LUXATIONS OF THE FINGERS.

Lastly, the Fingers and Thumbs may be dislocated in every Joint, and every Direction. But this may be soon discovered and remedied: For, as the Ligaments are not very strong, the Fat and Muscles thin, and the Sinuses of the Articulation shallow, the Surgeon

Surgeon need only extend the Finger with one Hand, and reduce it with the other. As for the proper Bandage, see the Article *FASCIÆ*.

LUXATIONS OF THE FEMUR.

We have already observed, under the Article *FRACTURA*, how very uncommon a Luxation of the Thigh is, and that the Antients often mistook a Fracture for it. The Reasons are very plain: For, 1. the Articulation is in a very deep Sinus, formerly called *Sinus Coxæ*, now *Acetabulum*. 2. The whole Head is almost covered with a broad, concave Cartilage. 3. The Ligaments are very strong. 4. It is guarded by very stout, thick Muscles. 5. The Neck of this Bone is the most brittle Part of it; consequently that is more subject to a Fracture, than the Head to a Luxation; though, whenever this happens, as it sometimes may, it proceeds rather from an internal, than external Cause. For the Head will spontaneously slip out of its *Acetabulum*, when the Ligaments are relaxed by a Collection of Humours, so that the Femur is sometimes luxated without the least external Violence, when the Patient lies quiet in his Bed, and, upon his rising, one Leg appears longer or shorter than the other, and seems, as it were, unhinged.

Robust Adults are not so subject to this, as tender Infants.

This Luxation is generally perfect, because the exact Roundness of the Head, the Narrowness of the *Acetabulum*, and the Strength of the adjacent Muscles, will not admit of a small Separation: For the very Instant the Head is forced to the Edge of the *Acetabulum*, it must either slip quite out, or return to its natural Place; though some will affirm, that there may be an imperfect Luxation.

The Thigh may be dislocated four Ways, inwards, outwards, upwards, and downwards, but it generally happens, inwards and downwards, towards the large Foramen of the Os Pubis: For the cartilaginous Defence in that Part of the *Acetabulum* is less, and more depressed; and the Ligamentum Rotundum gives way more easily than in any other Part; and the adjacent Muscles are there of less Force to prevent the Head from slipping out. Besides there are certain Eminences of the Os Pubis, and *Acetabulum*, which retain the Head, when once slipped out downwards. When the Thigh is luxated outwards, it generally slips upwards at the same time; for the strong Muscles of the Thigh, meeting with no Resistance, will draw it in that Direction.

If the Thigh is luxated inwards, and, as it commonly happens, downwards, the Leg is longer and more bowed than the other, and the Knee and Foot turn outwards: The Head of the Bone is thrust near the lower Part of the Inguen, and the Foramen of the Os Pubis. Sometimes the Compressure of a Nerve, which communicates with the Bladder, causes a Suppression of Urine. This Dislocation produces a Sinus in the Buttock, because of the Absence of the great Trochanter, and the rest of the Bone; and, without timely Assistance, the whole Limb withers. For this Reason the Patient cannot stand upon that Leg, but is obliged to lay the whole Stress of his Body upon the other, and in walking to move it semicircularly, whilst the Body itself must be supported either by other Men, or Crutches under his Arms, or, at least, by Sticks; though I have seen Instances, where the Head has grown so firmly to the adjacent Parts, without the *Acetabulum*, that it has supported the Body without Crutches or Sticks, but the Patient always halted.

When the Thigh is luxated backward, it is usually drawn upward. Hence appears a Cavity below the Inguen, and a Tumor in that Part of the Buttock where the Bone, and Head of the Trochanter, are lodged. The Fold in the Buttock being forced upwards, the rest of the Limb will become shorter than the other, the Foot bend inwards, the Heel not touch the Ground, but the Patient will seem to stand on his Toes. Lastly, the dislocated Limb may be more easily infected than extended. And the Body is more firmly supported by this Limb, when luxated outwards, than inwards, because, in the last Case, the Feet are separated farther from each other.

Many, therefore, without Reduction, stand and walk strongly, by the Help only of a higher Heel to their Shoe. But there is generally some slight Decay of the Limb, from a Compression of the Nerves. If there should ever happen an internal or external Luxation, without a Protuberance above or below, it may be discovered from what we have said, and a due Consideration of the Structure of the Part.

Since it is universally agreed, that there is a great Difficulty in distinguishing between a Luxation and a Fracture of the Femur, I will venture to recommend the following Signs. We may judge it to the former, 1. When the Os Femoris is luxated by a Flux of Humours, without any external Violence, but only by walking or rising up. 2. When it is unattended with Pain, Tumor, or Inflammation. And, 3. When the whole Limb may be bent and turned about at the *Acetabulum* without any Noise, which is usually heard in Fractures. The contrary Signs indicate a Fracture.

The Cure of a luxated Thigh is very difficult. For, 1. The Strength and Thickness of the adjacent Muscles, particularly in robust Men, prevent a sufficient Extension. 2. On the same

Account the Head of the Femur is, with Difficulty, returned into the *Acetabulum*; and it is not easy to be certain when it is replaced.

3. When the Bone is duly replaced, it may slip out again, from the Lubricity and Weakness of the Ligaments. To this may be added, 4. That those very Ligaments are sometimes broken or lacerated by the external Violence. And, 5. The Inspissation of the Mucilage in the *Acetabulum* often prevents the Reduction, or forces the Bone out again, when it is replaced. So that no Reduction at all, or a late one, must produce Lameness.

When the Thigh is luxated forwards and downwards, the Patient must be laid upon his Back, on a Table; then a strong Napkin, or Linen Sling, is to be passed over the Groin, near the Part affected, one End of which is to come over the Belly, and the other over the Buttocks and Back; and both are to be tied with a Knot, on the Crest of the Ileum, and then held firm by Assistants, or rather fastened to a Hook or Ring, fixed to some Place, especially if we use the Polyspaston, to keep the Body from yielding to the Extension. Immediately above the Knee must another Napkin, Sling, or the Belt of *Hildanus*, (see *Tab. XXIX. Fig. 17.*) be fastened with a Compress under it; both Slings being drawn tight, the Thigh must be extended enough to draw it out of its Sinus, and replace it in its *Acetabulum*, without great Violence, by the Surgeon's Hands, one of which is to press the Head outward, and the other to guide the Knee inward. Or it may be done by a Napkin, in the Form of a Sling, fastened round the Extremities of the Thigh, as in a luxated Humerus, especially if the Knee is forced inwards by the Hand. When these Methods are insufficient for the Extension, the Polyspaston (see *Tab. XXIX. Fig. 15.*) must be used. When the Limb is properly extended, the Surgeon must place himself near the Table, on the injured Side, and with his Hands restore the Bone, from the Os Pubis, to its former Situation.

When the Thigh is dislocated backward, the Patient must be laid with his Face downwards on a Table, the Thigh extended in the same manner, but with more Violence than we just now proposed, and the Surgeon must perform the Reduction with his Hands or Knee, an Assistant in the mean time extending and turning the whole Limb inwards. For the proper Bandages, see the Article *FASCIÆ*. The Patient should be confined to his Bed for three Weeks, or a Month.

In whatever Direction this Bone is luxated, *Petit* recommends his Machine, because the strong Muscles generally render the Hands, and all other Instruments ineffectual. But the Stay (*Tab. XXXI. Fig. 7.*) may be less, and without the Aperture A; for the Thigh is not to be put through it, but the Middle of this Stay is applied to the Tubercle of the Ischium, and one End is brought before, the other behind. The Patient is placed on his sound Side, that the dislocated Thigh may lie upwards; but the Machine is put between the Thighs, the Knee of the distorted Side being a little bent. The Sling, (*Fig. 8. Tab. XXXI.*) after the Skin is drawn up, is fastened strongly a little above the Knee, and then to the Rope, which passes round the Pullies. (*Fig. 6. d d.*) The Horns of the Machine, *a a*, are put through the Stay, (*Fig. 7. d d.*) and, by winding up the Rope by the Handle E, (*Fig. 6.*) the Limb is cautiously and gradually extended, till the Surgeon judges it sufficient. After this, he proceeds as directed above.

When the Reduction is rendered more difficult by the Luxation being forward and downward, and the Adhesion of the Bone to the Foramen of the Os Pubis, *Petit*, instead of the Horns *a a*, (*Fig. 6.*) has substituted the others (at *Fig. 9.*), which, at the Ends, have transverse and lunar Prominencies: One of these A he puts upon the Os Ilei, the other B on the Middle of the Thigh; he afterwards ties the Napkin about the Inguen, which he fastens to the Rope about the Pullies; and then makes an Extension by turning the Handle, so that the Machine exerts its Force in three different Places. The Part A keeps the Patient firm, and resists the Os Ilei, as an immoveable Fulcrum; B, when the Rope is drawn tight, forces the lower Part of the Thigh inwards; and the Napkin, by the Assistance of the Rope and Pullies, draws the upper Part outwards, all which Motions are necessary in this Operation. But too strong an Extension will be very prejudicial, as the Limb is already too long, so that it should be continued only till the Surgeon can replace the Bone; otherwise it would prove useless, and must be repeated.

If the Luxation should be imperfect, and the Head of the Bone stick upon the internal Edge of the *Acetabulum*, the superior Part of the Thigh must be pushed outwards, and the inferior inwards: But, if it is lodged upon the external Edge of the *Acetabulum*, the superior Part of the Femur is to be pressed with one Hand inwards, whilst, with the other Hand, the inferior Part is directed outwards.

LUXATIONS OF THE PATELLA AND KNEE.

OF A LUXATED PATELLA.

The Patella is generally luxated externally or internally, tho' some assert, that it may be displaced upwards or downwards: This Accident is a necessary Attendant upon a perfect Luxation of

of the Knee, as it is so strongly connected to the Femur and Tibia. Many ignorant Surgeons treat it as a Dislocation of the Knee itself, and do the Patient much Injury by extending the Limb, and pressing the Part: But any one of Judgment, by comparing the affected and sound Limb, may readily determine whether the Patella is luxated, and towards what Part, and, of consequence, what Method is proper for the Cure.

The Patella is to be reduced by laying the Patient flat on his Back upon a Table, Bed, or the Floor, so that an Assistant may pull his Leg strait; or he may stand erect: Then the Surgeon must take firm Hold of the Patella with his Fingers, and force it into its proper Place. After this, nothing more is required, but a Bandage and Rest, with a gentle Motion of the Limb at Intervals, till it has recovered its former Vigour.

A proper Luxation of the Knee is when the Tibia recedes from the Femur, which happens outward, inward, and backward; seldom or never forward, without very extraordinary Violence, because the Patella, being connected to the Articulation by those exceedingly strong Tendons which extend the Leg, opposes a Dislocation that Way. Nor do the Bones of the Leg easily suffer a perfect Luxation, because the Sockets are very deep, and the Ligaments exceedingly strong, unless those very Ligaments are broken at the same time; from whence it must necessarily follow, that the Patient will be tortured with such exquisite Pain and Convulsions, that, if he escapes with Life, there will remain a Rigidity and Lameness in the Joint. On the contrary, a slight Luxation, or rather a Subluxation, is very easily remedied. Luxations of this Joint are easily discovered, because the consequent Cavities and Tumors are evident, the Part being but very little covered with Flesh: But they are very seldom cur'd without leaving an Anchylosis; for by this Accident the Ligaments and Glands of the Articulation must be broken, or violently bruised and lacerated; from whence will proceed an Inflammation of their nutritious Juices, which prevents the natural Motion of the Limb.

In a slight Luxation the Patient must be seated on a Bed, Bench, or Table, one Assistant taking hold of his Thigh above the Knee, and another extending his Leg, while the Surgeon reduces the Bone with his Hands or Knee. When the Hands and Slings are insufficient, recourse should be had to the Instruments described under the Article FRACTURA; as the Belt of *Hildanus*, and the Polyspaston (*Tab. XXIX. Fig. 15. 17.*). The Extension must not be so violent as to separate the Epiphyses from the Bones, in Children and young Persons; for that will induce a worse Disorder, and perpetual Lameness. As for the rest, it must be properly bound up, put in a Straw-case, and treated as a luxated Patella.

The Fibula may, by external Violence, be disunited from the Tibia, either at the superior or inferior Part. When it happens in the inferior Part, it generally proceeds from a Luxation of the Foot externally. This Bone, therefore, must be reduced, bound up, and the rest of the Treatment must be agreeable to our Directions given above for Luxations of the Patella and Knee. Lastly, the Patient must be forbid to lay any great Strefs upon the disordered Limb too soon, as that will be attended with an incurable Lameness.

LUXATIONS OF THE FOOT AND ANGLE.

The Angle may, by leaping, running, or walking, be luxated in all four Directions; and the Direction may be discovered by the particular Posture of the Joint: For, when the Luxation is internal, the Bottom of the Foot bends outward; and the Reverse when external; but the latter is the more common Accident. When it is luxated forward, the Heel becomes shorter, and the Foot longer, than usual; the contrary Direction is attended with contrary Symptoms. Lastly, the Angle can scarce ever be dislocated outward, unless the Fibula is removed from the Tibia, or entirely broken where it forms the external Malleolus.

A Luxation of the Angle, from any extraordinary Violence, is generally attended with dangerous Symptoms; for the Distortion of the Foot must strain the Ligaments, Tendons, and Nerves, which will produce extreme Pains; or the Veins and Arteries may be burst, and a Gangrene excited by a large Extravasation of Blood.

But every Disorder of the Foot from leaping or turning on one Side is not a Luxation of the Angle; for it may be only a Contusion or Laceration of the Parts, and yet the Patient be afflicted with most acute Pains, livid Tumors, and Stiffness; so that he can neither stand nor walk, but is confined to his Bed for some time. Extension and Reduction, therefore, are improper.

The Difficulty of reducing the Angle is proportionable to the Violence of the Cause. But the best Method is, to place the Patient on a Bed, Table, or Seat, and order two Assistants to extend the Leg and Foot in opposite Directions, whilst the Surgeon replaces the Bone with his Hands and Fingers. After Reduction, the Part should be bathed with Salt and Oxyerate, and then bound up. The Patient must keep his Bed till the Symptoms leave him, and his Angle is capable of supporting his Body without Danger.

Vot. II.

In a Contusion of the Angle, the Part should be immediately dipt in cold Water; and this should be repeated for several Days. But, if this seems disagreeable, I would recommend Compresses impregnated with Salt and Oxyerate; these are to be bound on, and renewed often. *Dionis*, in his Surgery, follows almost the very same Method of Cure; for he prepares what the Surgeons call a Defensive Ointment, of the Whites of Eggs, Oil of Roses, and Alum duly triturated, which he spreads on Lint, and firmly secures on the Angle: On the third Day after this Application he boils Wine with aromatic and astringent Ingredients, such as Roses, Wormwood, Rosemary, Pomgrahate-bark, Alum, and Salt; with that Decoction he carefully toments the Angle. Then he applies a Compress wet in this Wine, and secures it by a tighter Bandage than before. When he has continued this for twelve Days, he applies a Strengthening Plaster till the Pains entirely cease.

Some Contusions are only curable by Time; and we have Instances, where Patients have been unable to walk on rough Ground, or go up and down Stairs, for a whole Year, without great Trouble. For the Prevention of this, the same Methods are to be pursued, as we have directed for Luxations of the Angle after Reduction. For Bandages, see the Article FASCIA.

LUXATIONS OF THE CALCANEUS.

Sometimes the Calcaneus is luxated inwards or outwards. This is discoverable by a Cavity on one Side, and a Tumor on the other: It is attended with severe Pains, and is to be cured by the Method already directed, keeping the Limb quiet for some time.

LUXATIONS OF THE OTHER BONES OF THE FOOT.

Lastly, If any other Bone of the Foot be dislocated, the adjacent Ligaments, with the Nerves and Tendons, are generally so much injured, that acute Pains, violent Inflammations, Convulsions, and, according to some, Death, ensue, without speedy Assistance. They should be reduced, therefore, as we directed for the Bones of the Hand; and the Toes must be treated in the same manner as the Fingers. The Patient must keep his Bed for some time.

LUXUS, in *Scribonius Largus*, is, luxated.

LUX. See ALBADARA.

LYCANCHE. A Species of Quinsy.

LYCANTHROPIA, from *λύκος*, a Wolf, and *ἄνθρωπος*, a Man. Lycanthropy, a Species of Madness; of which *Oribasius* gives the following Description: The Patients leave their Houses in the Night-time, and, in every thing imitating Wolves, wander about the Tombs till Break of Day [*Albucius* adds, that they return home then, and come to their Senses]. You may know them by the following Symptoms: Their Looks are pale, their Eyes dull, hollow, fixed, and dry, without the Moisture of a Tear. Their Tongue is quite dry, there being no Spit in their Mouths, and they are ready to perish with Thirst; their Legs, from the Bruises they receive in the Night, [among Stones and Thorns, *Albucius*, and from the Bites of Dogs, *Actius*] are full of incurable Sores and Ulcers. These are the Characters of the Lycanthropy, which is a Species of Melancholy; and in the Time of the Fit ought to be treated with Phlebotomy, the Blood being suffered to run till the Patient faints. Meats of good Juice, with Baths of sweet Water, are to be prescribed. Whey is to be drank for three Days together, and a Purge of *Hiera of Colocynthis* is to be twice or thrice administer'd. After purging, *Theriaca* must be exhibited, together with other things, proper for the Cure of Melancholy. At the Approach of the Fit use Irrigation of the Head, with such things as are proper to procure Sleep; and, when he falls asleep, his Ears and Nostrils must be rubbed with Opium. *Oribasius Synopsis Lib. 9. Cap. 10.*

Actius, Tetrabib. 2. Sermon. 2. C. 11. gives the same Description and Cure; only calls the Disease *κυνανθρωπία*, Cynanthropy, as well as *λυκανθρωπία*, Lycanthropy; and observes it prevails most in February.

P. Aegineta, L. 3. C. 16. intitles his Chapter upon this Subject, *περὶ λυκανθροπίας ἢ λυκανθρώπων*. Upon this Dr. *Freind*, in his History of Physic, remarks, that "*Lambecius* seems to give us a very right Explanation, how this Blunder of *λυκανθροπία* arose from mistaking the Abbreviation used in the Manuscripts." But if we reflect, that, according to the antient Fable, *Lycan* was turned into a Wolf by *Jupiter*, we may, perhaps, have Reason to believe this Blunder only imaginary; for *Lycan* is no improper Name for a Person affected with this Madness. The Title of his Chapter, then, may run thus, in English, of a *Lycan*, or a Person affected with a Lycanthropy, *λυκανθρώπων*.

Actius informs us, that his Chapter, upon this Subject, was taken from *Marcellus*. Now *Marcellus Sidetes* lived in the Time of *Marcus Antoninus*, and wrote forty-two Books about Physic, in heroic Verse, one of which treated of the *Lycanthropia*, as we learn from *Suidas*. *Suidas* says, *περὶ λυκανθροπίας*, which seems to be a Fault.

It is remarkable, that the Demoniac in Scripture, who was possessed of this Sort of Madness, is said to have had his Dwell-

ing among the Tombs. If we may believe the Reports of Travellers, this Distemper has not been uncommon in some Countries, as *Livonia* and *Ireland*. *Donatus ab Altomari* says he has seen two Instances of it himself; and *Forestus* relates an History which agrees exactly with the Description given by *Oribasius*.

LYCAON, λυκάων. See LYCANTHROPIA.

LYCHNIŌN, λυχνιον. The Name of a Medicine for anointing the Eyes, described by *Galen, de Comp. M. S. L. Lib. 4. Cap. 7.*

LYCHNIS.

The Characters are;

The Leaves are entire and conjugated; the Calyx is entire, swelling, tubulated, generally striated, not caducous, sometimes distended like a Bottle, with a narrow Margin. The Flower is like a Clove-gilly-flower, pentapetalous, (the Petals being placed circularly, and generally Heart-shaped) often adorned with two or three small Leaves representing a Crown, and furnished with Stamina, to the Number of five, or upwards, as far as ten. The Fruit is conical, involv'd in the Calyx, opening at the Apex, and furnished with three or more Tubes. The Seeds are numerous, roundish, and angulated, or Kidney-shap'd.

Boerhaave mentions eighty-one Species of this Plant, none of which have any particular Medicinal Virtues ascribed to them, that I know of, except the 1st, 6th, 14th, 20th, 27th, 35th, 39th, 46th, and 73d.

The 1st is the

Lychnis; coronaria; Dioscoridis; fativa; flore dilute rubente. C. B. P. 203. Tourn. Inst. 334. Boerb. Ind. A. 210. Lychnis Coronaria. Offic. Lychnis coronaria vulgo. J. B. 3. 340. Raii Hist. 2. 993. Lychnis Coronaria vulgaris. Park. Theat. 629. Lychnis coronaria rubra simplex. Parad. 252. Lychnis Coronaria rubra. Ger. 381. Emac. 467. ROSE CAMPION.

It is cultivated in Gardens, and flowers in *June*; the Seed is used, which, according to *Dioscorides*, purges Bile by Stool, and heals the Sting of the Scorpion.

The sixth is the

Lychnis; segetum; major. C. B. P. 204. Raii Hist. 2. 998. Synop. 3. 338. Tourn. Inst. 3. 335. Boerb. Ind. A. 210. Nigellastrum. Offic. Lychnoides segetum sive Nigellastrum. Park. Theat. 632. Pseudomelanthium. Ger. 226. Emac. 1087. J. B. 3. 341. COCKLE.

A Dram of the Powder of the Seed of this Plant, given to drink in Broth, or Water, for three Mornings, is excellent for the Vapours. *Simon Pauli* affirms, that *Sennertus*, and himself, used the Root of this Plant successfully, to stop Hæmorrhages, even those which happen in continued Fevers. They put it under the Tongue of the Patient, and left it there for some time. *Martyn's Tournefort.*

It grows among Corn, and flowers in *June* and *July*. The Seed is used, which is of a hot and dry Quality, and, being applied in a Pessary, with Honey, provokes the Menfes. *Hippocrat.* It is extol'd, by some, as vulnerary. *DALE.*

The fourteenth is the

Lychnis; sylvestris; alba; simplex. C. B. P. 204. Tourn. Inst. 334. Boerb. Ind. A. 211. Ocymoides. Offic. Ocymoides album multis. J. B. 3. 342. Lychnis sylvestris flore albo. Ger. Emac. 468. Park. Theat. 630. Raii Hist. 2. 994. Synop. 3. 339. WILD WHITE CAMPION.

This wild Champion has a long whitish creeping Root, and round hairy Stalks, a Foot high, or more, having two oval sharp-pointed hairy Leaves at every Joint; the Flowers grow on the Tops of the Branches, three or four together, on long Foot-stalks, consisting of five white, round, pointed Leaves, standing in loose hairy Calyces; the Seed-vessel is large, and open at the Top, having a dentated Crown, including a small, greyish, round Seed. It grows in Hedges and Borders of Fields, and flowers in *May*.

Parkinson says, that the white Flowers of this Plant have been used, with Success, against the Fluor Albus, and are good to stop inward and outward Bleeding. *Dioscorides* recommends the Seed against the Bites of all venomous Creatures. *Miller's Bot. Off.*

This Plant has an herby Taste, very insipid, a little glutinous, and gives no Tincture of Red to blue Paper. *Martyn's Tournefort.*

The Seed is used, which is drying, and of fine Parts; *Dioscorides* commends it for the Sciatica. The Herb boiled in Posset is an excellent Remedy for Convulsions in Children. *Raii Hist. Plant.*

The twentieth is the

Lychnis; sylvestris; sive aquatica, purpurea simplex. C. B. P. 204. Tourn. Inst. 335. Boerb. Ind. A. 2. 111. Lychnis sylvestris. Offic. Lychnis sylvestris rubello flore. Ger. Emac. 469. Raii Hist. 2. 994. Synop. 3. 339. Lychnis sylvestris flore rubro. Park. Theat. 631. Ocymoides purpureum multis. J. B. 3. 343. RED WILD CAMPION.

It grows by Hedges, and flowers in Summer: The Seed, which is the Part used, agrees in Virtues with that of the *Rose Campion*.

The twenty-seventh is the

Lychnis; sylvestris; quæ Been album vulgo. See BEEN ALBUM.

The thirty-fifth is the

Lychnis; sylvestris; quæ Saponaria vulgò. Tourn. Inst. 336. Boerb. Ind. A. 212. Saponaria. Offic. Ger. 360. Emac. 444. Raii Hist. 2. 999. Saponaria major lævis. C. B. P. 206. Saponaria vulgaris. Park. Theat. 641. J. B. 3. 346. Lychnis saponaria dicta. Raii Synop. 3. 339. SOPEWORT.

Sopewort has many creeping Roots, arising from a thick woody Head; it sends forth redish Stalks, about a Foot high, full of Knots, which are encompassed by the broad Foot-stalks of the Leaves: These are smooth, of a pale-green Colour, broad and sharp-pointed, about two Inches long, having three pretty high Veins on their back Part. The Flowers grow on the Tops of the Stalks, being large, of a pale-purple Colour, each made of five large, round-pointed Leaves, set in a smooth, long Calyx: The Seed is small and round, growing in long roundish Seed-vessels. It grows in watery Places, and near Rivers, and flowers in *June*. The Leaves are used.

It is called Saponaria, or Sopewort, because its Juice will get greasy Spots out of Cloaths. It is accounted opening and attenuating, and somewhat sudorific, and is by some commended against the Lues Venerea. Outwardly applied, it helps hard Tumors and Whitloes, and provokes Sneezing; but it is seldom used. *Miller's Bot. Off.*

The Decoction of this Plant cures the Itch, and Tetter; and *J. Baubine* affirms, that it takes Spots out of Cloaths. *Schroder* says, that its Roots are aperitive and resolvent; that it is good for the Venereal Disease, to prevent the Asthma, and provoke the Terms: It is used in the Oil of Euphorbium, according to the Description of the *London Dispensatory*. The Sopewort is very bitter, and gives hardly any Tincture of Red to blue Paper, which shews, that the bitter natural Salt of the Earth is mixed with it, without any considerable Alteration, unless it be accompanied with a great deal of Sulphur. *Martyn's Tournefort.*

The thirty-ninth is the

Lychnis; segetum; rubra; foliis perfoliata. C. B. P. 204. Raii Hist. 2. 999. Tourn. Inst. 335. Boerb. Ind. A. 212. Vaccaria. Offic. Ger. 395. Emac. 492. J. B. 3. 357. Lychnis segetum, Vaccaria rubra dicta. Park. Theat. 633. COW-BASIL.

It grows among Corn, and flowers in *June* and *July*. The Seed, which is used, is hot and dry, and provokes Urine.

The forty-sixth is the

Lychnis; pratensis; flore laciniato, simplici. See ARMERIA.

The seventy-third is the

Lychnis; arvensis; glabra; flore majore. See GRAMEN LEUCANTHEMON, under the Article ALSINE.

Amongst the Species of *Lychnis*, *Ray* mentions one which grows in *Brasil*, called *Camera Flore albo Brasiliensis*. *Marggr.* But I don't know that any particular Medicinal Virtues are ascribed to it.

LYCHNIS INCANA. A Name for the *Myosotis; incana; repens.*

LYCHNIS INDICA. A Name for the *Plumbago; Ceylanensis; folio splendente Ocymastri; flore lacteo.*

LYCHNIS, SEGETUM, MINOR. A Name for the *Myosotis; Hispanica, segetum.*

Besides the foregoing Species of *Lychnis*, *Dale* mentions the following; which is,

MUSCIPULA. Offic. *Muscipula viscaria sive Lychnidis Species. J. B. 3. 349. Viscaria. Ger. 481. Viscaria sive Muscipula. Ger. Emac. 601. Lychnis viscosa, rubra altera sylvestris. C. B. P. 205. Raii Hist. 2. 1001. Tourn. Inst. 337. Lychnis sylvestris rubra minor. Park. Theat. 632. CATCH-FLY.*

It grows spontaneously among Corn, and flowers in *June* and *July*; the Seed is in Use, and has the same Virtues attributed to it, as the other Species of *Lychnis*.

LYCHNI-SCABIOSA.

The Characters are;

The Calyx is oblong, tubulous, cylindrical, multifid, deeply jagged, and simple. The five outer Flowers are monopetalous, tubulous beneath, and quadrifid above, the upper Segment being the largest, the two lateral ones less, and the lowest the least and shortest. The middle Flowers are tubulous and quadrifid, and produce each four Stamina, which arise from their Inside. The Disk of the Calyx is not globular, but contains oblong Ova, whose Apices are adorned with the Crown of the Scabious; within this Crown it contains a little Flower, and produces a long Tube.

Boerhaave mentions but one Sort of this Plant; which is, *Lychni-scabiosa; flore rubro; annua. Scabiosa Orientalis, flore Caryophylli quorundam. Boerb. Ind. alt. Plant. Vol. 1. p. 131.*

There are no Medicinal Virtues ascribed to this Plant at present that I know of.

LYCHNITES. A precious shining Stone, which is said to grow in the Rocks in *Thrace*, and in the neighbouring Countries.

LYCIUM. Offic. *Schrod. 4. 198. Lycium Buxi foliis. C. B. P. 478. Lycium sive Pyracantha. Ger. 1151. Emac. 1322. Lycium vulgatum. Park. Theat. 1009. Lycium italicum. J. B. 1. 59. Raii Hist,*

Hist. 2. 1627. *Lycium Buxi foliis rotundioribus Syriacum vel Persicum*. Breyh. Prod. 2. 64. BOX-THORN.

It grows in hot Countries. What is used of it in Medicine is the Rob, or concentered Juice of the Leaves and Branches, the Preparation of which is thus described by *Dioscorides*: The Branches with the small Roots are bruised, and, being first macerated for many Days, are boiled; then the Wood being thrown away, the Liquor is again boiled to the Consistence of Honey. *Lycium* is adulterated by putting *Amurca*, or the Juice of Wormwood, or Ox-gall, into the boiling Liquor. In the same manner is *Lycium* prepared of the expressed and insolated Seed. The best *Lycium* is what will burn, and, when quenched, shews a red Spume; is black on the Outside, but, when broken, red within, which has nothing of a rank Smell, but a bitterish astringent Taste, and is of the Colour of Saffron.

It is of an astringent Quality, and deterges whatever darkens the Pupil of the Eye; and cures the Ulcerations, Itchings, and inveterate Rheums, affecting the Eyelids. It is effectual, also, in Purulencies of the Ears, in Exulcerations of the Gums and Tonsils, Fissures of the Lips, or Rhagades of the Anus, and Abrasions, the affected Parts being anointed therewith. Exhibited either in Potion, or by way of Clyster, it is very proper for the Coeliac Passion, and the Dysentery. For an *Hæmoptoe*, or Cough, it is given in Water; and to those who are bit by a mad Dog, it is prescribed to be swallowed in Pills, or drank in Water. It renders the Hair yellow, cures a Paronychia, Herpes, and putrid Ulcers; applied in a Pessary, it stops the menstrual Flux; and drank in Milk, or taken in Pills, it relieves those who are bitten by mad Animals. *Dioscorides*.

There are two Species of *Lycium* mentioned by *Dioscorides*; one is produced from a Plant growing in Greece, which is our present Subject, and is called simply *Lycium*; the other is prepared of an *Indian* Plant, of which we have spoken under the Article ACACIA, where it passes under the Name *Cate*. But, since the *Lycium* is unknown to the Moderns, there are different Opinions about it. The Shops, as *Schroder* writes, commonly make their *Lycium* of the Berries of the *Periclymenum*, or Honey-suckles; others of the Fruit of the *Ligustrum*, or Privet; and others of wild Plums. But they might have provided a better Succedaneum, as C. B. on *Matthiolum* observes, from the *Oxyacantha*, or the *Rhamnus*.

LYCIUM is, also, a Name for several Sorts of *Rhamnus*; which see.

LYCIUM INDICUM. See ACACIA.

LYCOCTONUM. See ACONITUM PONTICUM.

LYCOIDES, *λυκοειδής*, from *λύκος*, a Wolf, and *εἶδος*, Form. This is, by Authors, explain'd a sort of Madness, or a Quinsy, caused by a Retention of the Seed; but I believe it imports the same as LYCAN'THROPIA.

LYCOPERDON.

The Characters are;

It is simple, and shaped like a Sponge; within, it is replete with very fine Seeds, which, at the slightest Motion, when ripe, are dislodged like Smoke.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Lycoperdon*; vulgare. *Tourn. Inst.* 563. *Boerb. Ind. a.* 15. *Crepitus Lupi*. Offic. *Lupi Crepitus*, sive *Fungus ovatus*. *Park.* 1323. *Fungus rotundus Orbicularis*. C. B. P. 374. *Fungus orbicularis*, seu *Lupi Crepitus*. *Ger.* 1385. *Emac.* 1582. *Fungus pulverulentus dictus Crepitus Lupi*. J. B. 3. 848. *Raii Hist.* 1. 104. *Synop.* 16. *Bovislla Officinarum*. *Dill. Cat.* 196. PUFF-BALLS, BULL-FISTS, MOLLI-PUFFS.

You meet with them in Pasture-grounds almost every-where in Autumn. The whole Plant is in Use, and is of a drying and astringent Quality; whence the Powder of it, sprinkled on Wounds, stops their Bleeding; It, also, dries up inveterate Ulcers, and restrains the Flux of the Hemorrhoids; but it is reckon'd hurtful to the Eyes. *Raii H. P. p.* 105. The Powder is a sovereign Remedy against an Hemorrhage. *Boerb.*

2. *Lycoperdon*; minus; & multiplex; sphaericum. T. 563.

3. *Lycoperdon*; minus; & multiplex; ovatum. T. 563.

Each of these two last Species is white within, fleshy, ash-coloured without; it afterwards inclines to a Lemon-colour, and at last grows soft, dries up, bursts, and emits a tawny-coloured Dust; and this Dust is mixed with Whites of Eggs, to stop the Blood in all sorts of Hemorrhages. *Martyn's Tournefort*.

4. *Lycoperdon*; Alpinum; maximum; cortice lacero. *Tourn. Inst.* 563. *Boerb. Ind. a.* 15. *Lycoperdon maximum*. Offic. *Fungus maximus rotundus, pulverulentus dictus*, Germanis. PFO-FIST. J. B. 3. 848. *Raii Hist.* 1. 105. *Synop.* 16. *Fungi rotundi orbicularis secundum genus*. C. B. P. 375. *Bovislla maxima alba*. *Dill. Cat.* 196. GREAT DUSTY MUSH-ROOM.

It is found in fat Pastures, and by Dunghills. The whole Plant, which is sometimes as big as a Man's Head, is in Use, and is recommended for stopping the most dangerous Hemorrhages; for which Purpose *Clusius* says, that the Barbers, in many Places of Germany, keep it by them.

5. *Lycoperdon*; semi-orbiculare. T. 563.

6. *Lycoperdon*; Parisiense; minimum; pediculo donatum. T. 563. 331. Fig. E. E.

7. *Lycoperdon*; oblongum; utrinque introrsum emarginatum. T. 563.

8. *Lycoperdon*; qui fungus globosus, lavis, pallidus Ducis Poli & Rom. *Bocc. Mus.* 1. 303.

9. *Lycoperdon*; parvum; mortarii bellici forma.

10. *Lycoperdon*; ingens; conoides; pileatum; plerumque gemellum.

11. *Lycoperdon*; Sphaericum; cortice tenaci castaneo. *Boerb. Ind. alt. Plant. Vol.* 1. p. 15.

All these Plants consist of innumerable Vesicles, which contain a lacteous Humour, which becomes a Powder flying away like Smoke; this Powder, view'd in a Microscope, appears to be Seed; the Plant inverted resembles a Cap.

Lycoperdon, *λυκοπερδόν*, from *λύκος*, a Wolf, and *περδών*, Crepus, is the same as *Crepitus Lupi* in Latin, and was the Name given by the Antients to this Plant, because they imagin'd the Dung of the Wolf became such a kind of Fungus. All the Species are poisonous, and very pernicious, if received into the Lungs or Stomach; but the great *Lycoperdon*, divided in the Middle, affords a Powder which is of excellent Use for stopping an Hemorrhage. *Hist. Plant. ascript. Boerhaav.*

LYCOPERSICON.

The Characters are;

The Flower resembles that of the Nightshade; the Fruit is carnos, soft, of a roundish Figure, and divided into several Cells containing Seeds.

Boerhaave mentions six Species of this Plant; which are,

1. *Lycopersicon*; fructu albo. T. 150. *Solanum pomiferum, fructu rotundo, striato, molli, albo*. C. B. P. 167.

2. *Lycopersicon*; fructu Cerasi rubro. T. 150. *Solanum, racemosum, Cerasorum forma*. C. B. P. 167.

3. *Lycopersicon*; fructu; Cerasi luteo. T. 150.

4. *Lycopersicon*; Galeni. See AMORIS POMI.

5. *Lycopersicon*; Galeni; fructu rubro. *Poma amoris, fructu rubro*. H. Eyt. Aur. o. 1. F. 2. Fig. 1.

6. *Lycopersicon*; fructu striato; duro. T. 150. *Solanum, pomiferum fructu rotundo, striato, duro*. C. B. P. 167. J. B. 3. 620. *Mala Aethiopica*. *Dod. p.* 459. *Boerb. Ind. alt. Plant. V.* 2.

It is called *Lycopersicon*, *λυκοπερσικόν*, from *λύκος*, a Wolf, and *περσικόν*, a Peach, that is to say, in English, Wolf's Peach.

As to its Virtues, there has been a Dispute, and Authors are not yet agreed about them; but to me it seems more proper to be rank'd among poisonous than medicinal Plants; for the Seeds, taken inwardly, subvert the Stomach, and induce a Faintness, with a kind of apoplectic Disorder. *Hist. Plant. ascript. Boerhaav.*

LYCOPODIODES. See the Explication of Terms under the Article BOTANY.

LYCOPODIUM. Offic. *Muscus clavatus sive Lycopodium*. *Ger.* 1374. *Emac.* 1562. *Park.* 1307. *Raii Hist.* 1. 120. *Synop.* 25. *Muscus squamosus vulgaris repens, clavatus*. T. Inst. 553. *Muscus terrestris repens sive Clavatus*. C. B. P. 360. *Muscus terrestris a Trago pictus*. J. B. 3. 766. *Plicaria & Cingularia*. *Polonis*. CLUB-MOSS. See the Explication of Terms under the Article BOTANY.

It grows on Heaths, and hilly Places; and flowers in July and August. The whole Plant is in Use, and the Flower or yellow Powder of the Clubs.

Lycopodium refrigerates and dries; its principal Use is in expelling the Stone, and in Fluxes of the Belly. Outwardly it is of Service in loosening loose Teeth, and in drying and consolidating Wounds, *Schrod.* in extirpating the Plica, *Ephem. Ger. Anno* 2. The Flower is very serviceable in the Epilepsy of Children, and in the Heartburn, and flatulent Gripes, with which they may be affected, *R. Synop.* It is recommended in pulmonary Disorders, *Buxb.*

Bruised, or boiled in Wine, it has the Virtue of mitigating any Pain or Inflammation, and is therefore good to be applied warm to the Gout. A Dram of the Powder, taken in red Wine, cures Fluxes, and the Dysentery.

The *Polanders*, but especially the *Russians* and *Lithuanians*, on account of its frequent Use in curing the Plica, a Distemper familiar and epidemic among them, call it *Plicaria* and *Cingularia*. They take this Plant, or Moss, after dividing it with a Knife from the Bottom upwards, and infuse it in a Decoction of Branke-urline, first very well heated; and, after one or two very gentle Ebullitions, add some Ferment of white Bread, and set it aside near the Furnace for Fermentation. Of this Decoction, either by itself, or with new-laid Eggs, in form of a Broth, they eat and drink every Day, washing the Head with the Decoction first well warmed, and sometimes, for the greater Virtue, boiled over again with new Moss, to a Lixivium of a dark-red Colour; after washing they use no Comb.

An Ointment for the PLICA.

Take of Plicaria, and the Roots of Bryony, equal Parts; of the Fat of the Fledghog, a sufficient Quantity: Mix them well.

well together, and set them in a Glass Vessel well stopped in *Balneo Mariæ*, for an Hour; make them into an Ointment, with which anoint the Roots of the complicated Head of Hair, twice in a Day.

The Country-women in the *Ukraine*, when labouring under an excessive Flux of the Menfes, with Pains and Strangulations of the Uterus, prepare a Girdle of it, which they wear next their Skin; and bind it about their Heads as a Diadem, to repress an Hæmorrhage from the Noftrils. *Ephem. Germ. An. 2.* The Seed of the Plant, given from twelve Grains to a Scruple, has had immediate Success in an Epilepsy complicated with an Ischury. *Ex Obs. Wedelii, Ephem. Germ. An. 3.*

Gathered in the Months of *August* and *September*, it yields a very subtle yellow Powder, of great Virtue in the Epilepsy, Cardialgia, and Gripes: As much of it as will lie on the Point of a Knife, being taken, is an excellent Remedy to facilitate the Passage of the Urine. *Ephem. Germ. An. 1 Raii Hist. Plant.*

LYCOPSIS. A Name for the *Echium*; *Ægyptiacum*; *ferox*; *flore albo.*

LYCOPUS.

The Characters are;

The Calyx is short, and divided into six acute Segments; the Flower is generally bell-shaped, and divided into four or five roundish Segments; the Whorles of the Flowers are pretty closely compacted, and are disposed at a good Distance one from the other.

Boerhaave mentions two Species of this Plant; which are,

1. *Lycopus*; *palustris*; *glaber.* *Tourn. Inst. 191. Boerb. Ind. A. 186. Raii Synop. 3. 236. Lycopus. Offic. Marrubium aquaticum. Ger. 765. Emac. 700. Raii Hist. 1. 535. Marrubium aquaticum vulgare. Park. Theat. 1230. Marrubium aquaticum quorundam. J. B. 3. 318. Marrubium palustre glabrum. C. B. P. 230. WATER-FLOREHOUND.*

It grows by the Side of Brooks, and in watry Places; and flowers in *July*. The Herb is the Part used. The Plant is ranked, by *Monti*, in the Class of Astringents.

Lycopus, *λυκώπης*, is compounded of *λύκος*, a Wolf, and *πῆξ*, a Foot, that is to say, Wolf's-foot; because the Antients imagined its Leaves to resemble the Foot of a Wolf. Many things are related by the Antients concerning the *Lycopus*; but whether it be the same with what now goes by that Name, is not certain. The Antients called all vulnerary Herbs by this Name; but, as to any Virtue of this Plant in particular, we have nothing certain. *Hist. Plant. ascript. Boerhaav.*

2. *Lycopus*; *foliis in profundas lacinias dissectis.* *J. 191. Marrubium palustre, foliis profundissime dissectis. Flor. 1. 80.*

LYGISMOS, *λυγισμός*, from *λυγίζω*, to bend, or distort. This Word occurs in *Dioscorides, Lib. 4. Cap. 107.* and imports Contortions, that is, of the Limbs.

LYGMOS, or LYNX, *λυγμός, λυγξ.* An Hiccough. See SINGULTUS.

LYMA, *λύμα*, from *λέω*, to wash. The Sordes, or Filth, of the Body, which comes off by washing; or the Excrements of the Belly.

LYME, *λύμη*, in *Hippocrates*, implies an Injury or Damage.

LYMPHA. The Lymph. A fine Fluid separated in the Body from the Mass of Blood, and contained in peculiar Vessels.

Dr. Keil says, that, if you examine the Lymph chymically, you will find, that it contains a great deal of volatile, but no fixed Salt, some Phlegm, some Sulphur, and a little Earth.

The Use of this Lymph may be gathered from the Consideration of the Parts into which it discharges itself. That which comes from the Head, Neck, and Arms, is thrown into the Jugular and Subclavian Veins. All the Lympheducts which the Parts in the Cavity of the Thorax send out, empty themselves into the Thoracic Duct; and the Lymph from all the rest of the Body flows to the Receptacle of the Chyle: So that there can be no Doubt, but that its chief Use is to dilute and perfect the Chyle, before it mixes with the Blood. Now the whole Lymph, which is separated from the Blood, being requisite for this Use, it is plain, that there could be no Glands in the Abdomen appropriated for the Separation of the whole Lymph, but what mult have had a very great Share of the Blood which passes through the Aorta, in order to separate so great a Quantity of Lymph. But the Liver and Kidneys requiring, likewise, a great Quantity of Blood, and which could not be avoided, Nature chose to separate the Lymph from the Blood which goes to all the Parts of the Body, rather than appoint particular Glands for it in the Abdomen, which would have been more at hand, but which would have robbed the other Parts of a large Quantity of Blood, and occasioned a very unequal Distribution of it. *Keil.* See PAROTIS.

Below the Parotides, toward the Mastoide Apophysis, is fixed a small Gland. It is round, and of an even Surface, without Tubercles, and it is the uppermost of a great Number of Glands of the same kind, which lie partly below the Interstice between the parotid and maxillary Glands, and, at different Distances along the internal Jugular Vein, all the Way to the lower Part of the Neck. We observe among these Glands, and upon this Vein,

a great Number of transparent Vessels, with an Appearance of numerous Valves. The Fluid which they contain is transparent, a little mucilaginous, and is called *Lymph.*

The Vessels are, likewise, termed *lymphatic Vessels*, and the Glands, *lymphatic Glands.* These Glands are not all equally large, nor equally round, some being oblong, thick, flat, and small. The lymphatic Vessels go out alternately by one Extremity from one Gland, and enter by the other Extremity some other Gland, near the former; and both as they go out, and as they enter, these Extremities are very much ramified. The Trunk is commonly single, and the Valves are so disposed as that the Fluid contained in the Vessel can only run toward the Thorax, but cannot return to the Head.

These Glands and Vessels are to be found in many other Parts of the Body; we meet with them not only in several Parts of the Head, but, also, in many outward and inward Parts of the Thorax, Abdomen, and both Extremities. They accompany the maxillary salival Glands, as well as the Parotides; and there are several spread on the lateral and back Sides of the Neck, in the Membrana adiposa, near the Muscles.

In the Cavity of the Thorax the lymphatic Glands are situated at different Distances on one Side, and behind the Oesophagus, especially at the Place which is even with the fifth Vertebra of the Back. I have found some on the anterior Portion of the Diaphragm on one Side of the Mediastinum; and there are others round the Basis of the Heart, in the Fat which lies there. They are to be met with, likewise, in the Substance of the Membrana adiposa, which covers the Thorax, near the inner Surface, especially about the Clavicles; and in the cellular Interstices of the Muscles which lie on the Thorax.

In the Cavity of the Abdomen these Glands are very numerous, and particularly round the superior Orifice, and on the two Curvatures of the Stomach; on the Capsula of the Sinus of the Vena Portæ, on the cellular Ligament of the Gall-bladder, near the Beginning of the Ductus cycticus; at the Adhesions of the Omentum to the Spleen, and to the Colon; through the whole Extent of the Mesentery; at the Adhesions of the Mesocolon; behind the Adhesions of these two Membranes to the Vertebrae of the Loins; near the Bifurcation of the Aorta; and along the Iliac Vessels. There are, likewise, other such Glands on the Outside of the Abdomen, in the Substance, and toward the Inside, of the Membrana adiposa.

In the superior Extremities of the Body, these Glands lie principally under the Articulation of the Os Humeri, with the Scapula, and in the Hollow of the Axilla. The most considerable lymphatic Glands in the lower Extremity are toward the lower Part of the Inguina, commonly called the Inguinal Glands, to which the Fascia lata, or crural Aponeurosis, gives a kind of double Capsula, which makes some of them lie very near the Skin, and the rest at a greater Distance from it.

As all these lymphatic Glands differ more in Situation than in Size and Figure, they are commonly enumerated and denominated from the Places already mentioned, where they lie in the following Order:

Glandulae Parotides Lymphaticæ, Glandulae Maxillares Lymphaticæ, Glandulae Jugulares, Glandulae Cervicales, Glandulae Occipitales, Glandulae Claviculares, Glandulae Axillares, Glandulae Thoracicae, Glandulae Oesophagæ, Glandulae Mediastinae, Glandulae Cardiacæ, Glandulae Ventræ externæ, & internæ, Glandulae Stomachicæ, Glandulae Hepaticæ, Glandulae Cysticæ, Glandulae Epiploicæ, Glandulae Mesentericæ, Glandulae Lumbares, Glandulae Iliacæ, Glandulae Inguinales, Glandulae Crurales, &c.

There are three Sorts of Vessels, which now go by the Name of Lymphatics; whereas, formerly, that Word was used only to signify the transparent Vessels already mentioned, which accompany the lymphatic Glands. The original Sources of these Vessels are very difficult to be found out; and even their Distribution thro' the Body has not been sufficiently traced to enable us to describe them particularly. As to their Termination, we are sure, that, for the most part, they end in the Thoracic Duct.

Besides these Vessels, which accompany the Glands, there are others of the same Structure, found on the several Viscera, where no lymphatic Glands have hitherto been discovered. We meet with them in very great Numbers in the external Membrane of the Liver, and in the Duplication of the superior membranous Ligament of this Organ. Several Discoveries have been made about these Vessels in Brutes.

The third Sort of Vessels, termed Lymphatics, are the small Arteries and Veins, which, in their natural State, transmit only the serous Part of the Blood. These Vessels differ from those of the first, in the Smallness of their Diameter, and in their Structure and Situation. All these little Arteries and Veins are uniform, extremely narrow; and, tho' their Sides are not thinner than those of the valvular Lymphatics, yet their Diameters are generally less. The other Lymphatics are full of Valves, and very thin, but they are not narrow in proportion. The arterial and venous Lymphatics are found on the Parts which are naturally white, as on the Skin, and the White of the Eye; and their Origins are easily discoverable; but the valvular Lymphatics are confined to the internal Parts of the Body, and are found

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found on Parts of all Colours that are in the Body, and we cannot easily trace them to their original Sources. *Winflow's Anatomy.* See CHYLUS.

LYMPHÆDUCTUS, or LYMPHATICA VASA. The lymphatic Vessels. See LYMPHA.

LYNCEUS, λυσιδής. The Name of a Collyrium mentioned by *Galen*, de C. M. S. L. Lib. 4. Cap. 7. and by *Paulus Ægineta*, Lib. 7. Cap. 16. It is recommended for wearing off callous Excrescences, and sharpening the Sight.

LYNCIS LAPIS. See BELEMNITES.

LYNCOURION, from λυγξ, a Lynx, and ὕρον, Urine, because fabled to be produced by the concreted Urine of that Animal. *Dioscorides*, Lib. 2. Cap. 100. makes it a Species of Amber, to which he adds the Epithet πῆχυς ὀρόρεον and says it is good for the Stomach, and in a Diarrhœa. Some will have it the same as the Lapis Lyncis, and I believe it is only another Name for that Stone.

LYNX. Offic. Schrod. 5. 301. Raii Synop. A. 166. Aldrov. de Quad. Digit. 90. Jonst. de Quad. 82. Charlt. Exer. 14. *Lupus cervarius*. Gesn. de Quad. Digit. 677. *Unica*. Caius de Animal. 42. THE OUNCE.

The Parts in Use are the Fat, and the Claws; the Fat is proper for Resolutions, Strains and Luxations of the Joints; the Claw is set in Gold and Silver, and worn as an Amulet against the Epilepsy and Convulsions. *Dale* from *Schroder*.

LYRA. A large Sea Fish, which is not used by way of Aliment; but, dried, and taken in Powder, in the Quantity of a Dram, it is said to be aperitive. *Lemery des Drogues*.

LYSIMACHIA.

The Characters are;

The Leaves are oblong, entire, and grow two, three, or four together at each Joint of the Stalk. The Flower is monopetalous, expanded circularly, multifid, and scattered on the Tops of the Branches. The Fruit is a Shell, almost globular, and gaping at the Top.

Boerhaave mentions six Species of this Plant; which are,

1. *Lyfimachia*; lutea; major; quæ *Dioscoridis*. C. B. P. 245. *Tourn. Inst.* 141. *Boerb. Ind. A.* 202. *Lyfimachia*. Offic. *Lyfimachia lutea*. Ger. 386. Emac. 474. J. B. 2. 901. Raii Hist. 2. 1021. Synop. 3. 282. *Lyfimachia lutea major vulgaris*. Park. Theat. 544. *Nummularia cretæa Rivini*. Rupp. Flor. Jen. 14.

YELLOW WILLOW-HERB.
This Loose-strife has several brown hairy Stalks, two Foot high or more, having sometimes three or four, but oftener only two Leaves at a Joint, which are of a yellowish-green Colour, and hairy underneath, and darker, about three Inches long, and an Inch broad in the Middle, growing narrower at both Ends. The Flowers stand several together on the Tops of the Branches, consisting of a single Leaf divided into five Parts, with several Stamina in the Middle, of a yellow Colour, somewhat like St. John's-wort. The Seed-vessels are round, and parted in two,

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containing vety small Seed. The Root is long and slender, and creeps upon the Surface of the Earth. It grows in watry Places, and by River-sides.

The Antients commend this Plant for a great Astringent, and good for all kinds of Fluxes from any Part of the Body, as, also, to consolidate the Lips of fresh Wounds, prevent their Bleeding, and heal them in a short time. It is not often used. *Miller's Bot. Offic*.

This Plant is called *Lyfimachia* from *Lyfimachus* the Son of a King of *Sicily*, who is said to be the first who discovered it. It delights in moist Places, but has no Virtues; for those which *Dioscorides* ascribes to the *Lyfimachia*, seem not to agree to this, but to belong to some other Plant. *Hist. Plant. adscript. Boerhaav*.

2. *Lyfimachia*; bifolia; flore luteo, globoso. C. B. P. 245.
3. *Lyfimachia*; sempervirens; spicata; Ephemerum dicta; flore Blattariæ. H. L.
4. *Lyfimachia*; Orientalis; angustifolia; flore purpureo. T. Cor. 7.
5. *Lyfimachia*; annua; minima; polygoni folio. T. 142. *Lyfimachia*, minimum, stellatum. C. B. P. 214. Prodr. 107. This is said to be poisonous.
6. *Lyfimachia*; Canadensis; lutea; folio Jalappæ. *Sarazén. Boerhaave, Index alt. Vol. 1. p. 101.*

LYSIMACHIA is, also, a Name for several Sorts of SALICARIA.

LYSIMACHIA cæruleo flore. A Name for the *Veronica*; spicata; longifolia.

LYSIMACHIA galericulata. A Name for the *Galeopsis*; palustris; folio *Betonica*; flore variegato: And for the *Cajilla*; palustris; vulgarior; flore cæruleo.

LYSIMACHIA humifusa. A Name for the *Nummularia*; lutea; major; and, also, for the *Nummularia rubra*.

LYSIPONION, λυσιπίνιον. The Name of an Acopon described by *Paulus Ægineta*, Lib. 7. Cap. 19. In *Myrepsus*, S. 1. there is an Antidote, intituled *Lusiponos*, quoted from *Galen*.

LYSIS, λύσις. Solution. It is used relative to Luxations; to the Termination of Diseases; to an Evacuation by Stool; to the menstrual Flux; to Bandages; and to all kinds of Weakness.

LYSSA, λύσα, λύσα. That Species of Madness, which is said to be peculiar to Dogs and Wolves. But it is, also, used to express the Madness in Man, excited by the Bite of a mad Animal. See HYDROPHOBIA.

LYSSODECTOS, λυσόδενκτος, from the preceding Word, and δένκω, to bite. A Person bitten by a mad Animal; or one labouring under the Distemper thereby excited.

LYTERIOS, λυτήριος. An Epithet for those Signs which precede the Solution of Diseases.

LYTHRON, λυθρον. Dust mixed with Sweat and Blood. *Hesychius*. In *Hippocrates's* Epistle to *Damagetus*, it signifies the excrementitious menstruous Blood.

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M. For the Signification of this Letter in the chymical Alphabet, see ALPHABETUM CHYMICUM.

In Prescriptions it imports *Misce*, Mix; or *Manipulus*, an Handful.

MABOUJA. A very hard Root of a Tree, of which the savage *Americans* make themselves Clubs. We are told by *Lemery*, that *Mabouja*, in the Language of these Savages, signifies the Devil; and that they give the Name to this Root, because, when armed therewith, they look upon themselves to be very terrible.

MACALEB *Gesneri*. See *Mahaleb*, under the Article CERASUS.

MACALEB *Serapionis*. A Name for the *Phillyrea*; latifolia; levis.

MACANDON. The Name of a coniferous Tree, mentioned by *Bontius*, which grows in *Malabar*, called, also, *Cada Palava*. H. M.

Bontius writes, that the Fruit is exactly like the Pine-nut; only it ends not in so acute a Cone, nor is of so stony an Hardness, but quite soft, and of a faint, or rather insipid Taste. The Flowers he compares to those of the Honeyluckie.

The *Malayans* roast the Fruit under the Ashes, and eat it for

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the Dysentery, and to mitigate the Violence of the Cholera Morbus. They say, also, that it is good in pectoral Disorders, the Asthma, Phthisis, and Pleurisy, on account of the emollient Virtue of its mucous Parts.

Bontius thinks it ought to be called the *Indian Tree Comfrey*, or *Tree Consolida*, because he more than once experienced the consolidating Virtue of the Fruit, in an Hospital, for a Spitting of Blood. The Leaves, also, he says, are incensing; and are excellently qualified for generating Flesh in Wounds and Ulcers, and inducing a Cicatrix. For the same Purpose a Salt may be extracted from the Leaves by Chymistry; which Salt, besides its consolidating Quality, has, also, a mundificant Virtue in cleansing inveterate and malignant Ulcers. The expressed Juice, boiled with the Oil of the Leaves of the Fig-tree, is good to anoint Parts affected with the Gout. *Rau Hist. Plant*.

MACEDONICUS. An Epithet for a Plaster described by *Actius*, and by *Paulus Ægineta*, Lib. 7. Cap. 17.

MACEDONISUM SEMEN. This Seed is directed by *Nicolaus Myrepsus*, Sect. 1. Cap. 1. as an Ingredient in the *Antidotus aurea Alexandri*. *Fuchs* informs us it is the Seed of the *Hippofelinum*, *Alexanders*.

MACER. Offic. Theoph. *Macer veterum*. C. B. P. 408. *Macer Græcorum*. Park. Theat. *Macer Dioscoridis & Græcorum*. J. B. 1. 262. *Ulna affinis, vasculis membranaceis & semine intus incluso composito*. Raii Hist. 2. 1779. THE GRECIAN MACER.

It is brought from *Barbary*, and the Part in Use is the thick yellow Bark, which has a very astringent Taste, and is said by *Dioscorides* to be good for Spitting of Blood, the Dysentery, and Fluxes.

The recent Bark of the Root, mixed with Oxygala, or sour Milk, is used by all the Physicians of *Malabar*, and other Parts of the *East-Indies*, with very good Success, in curing all sorts of Dysenteries, and Fluxes of the Belly. Some macerate half an Ounce of the Powder of the dried Root in four Ounces of Whey, and give it twice in a Day, Morning and Evening; after which they exhibit boiled Rice, without Salt or Butter; and immediately after that, Chickens bruised, macerated, and boiled in a Decoction of Rice: Sometimes, if Necessity requires, they mix Opium with it. The *Arabians*, also, use the same, mixed with Nutmeg, in the Cure of all kinds of Fluxes of the Belly. The Root used with Water of Mint, and Powder of Mastic, is believed to be salutary and effectual in restraining Vomitings, and corroborating the Stomach. The *Indian Jagues* assure us, that a little Bit of this Tree is of more Effect in stopping Vomitings and Loosenesses, than a great Quantity of the Bark of *Myrobalans* or *Areza*; and that it excels the *Malabarian Coru*: Moreover, that the Fruit *Macre* destroys all sorts of Worms in the human Body, and breaks the Stone in the Kidneys, and secures those who eat it every Day in the Morning from the Stone and the Colic, and from Inebriation. The Similitude of the Name, *Macer* and *Macre*, and their Agreement in Virtues, prove this Bark to be the *Macer* of *Dioscorides*. Raii Hist. Plant.

Mr. *Jussieu*, in the Memoirs of the Royal Academy of Sciences, for 1729. seems to think the *Macer* of the Antients the same as the *SIMAROUBA*; which see.

MACERATIO. Maceration. This is an Infusion, or soaking Ingredients in Water, or any other Fluid, in order either to soften them, or get out their Virtues. *Lemery* defines Maceration to be a sort of Digestion, confined to thick Substances. Thus, says he, when Rose-leaves are put into Fat, in order to make Oil of Roses; this Mixture is exposed for some Days to the Sun, in order to macerate, that the Quality of the Roses may be the better convey'd to the Fat. *Pharm. Univers.*

MACHA, in *Paracelsus*, signifies a Beetle.

MACHÆRIA. Peach-kernels. *Galen, Lib. 5. de Comp. M. S. Loc. Cap. 9.*

MACHÆRION, *μαχαίριον*. MACHÆRIS, *μαχαίρης*. A Chirurgical Incision, or Amputation-knife. A Part of the Liver of Animals was thus called by the *Aruuspices*, according to *Ruffus Ephesius*; but, he says, in Man it is scarcely discoverable. *Lib. 1. Cap. 28. de Appellat. Partium Corporis.*

MACHAL, imports fixed. *Rulandus.*

MACHA-MONA. A kind of *African* Calebashi. It is the Fruit of a very large Tree, which grows in *Africa*, and the *American* Islands. When this Fruit is ripe, the Pulp has a sourish Taste, with a little Astringency; it is delicious in hot Countries, and they prepare a Liquor of it, which they use instead of Lemonade to cool and refresh themselves; and give it to sick Persons under a Looseness. The Pulp, dried, tastes as well as the spiced Bread of *Rheims*. The Slaves make a kind of thick Gruel with this Pulp and Water; it is of an absorbent Quality. The *African* Women use the Pulp instead of Rennet, for curdling their Milk.

The Seeds of this Fruit are as big as small Pine-apple Kernels, kidney-shaped, of a Chestnut-colour, and inclosing an Almond far more delicious than our sweet Almonds. *Lemery des Drogues.*

MACHAON, the Son of *Æsculapius*, and Brother of *Podalirius*: He was the elder Brother, as may be inferred from what *Podalirius*, in *Q. Calaber*, speaks concerning his Death. "This dear Brother of mine, he says, educated me as if I was his own Son, after our Father was received into Heaven, and taught me to cure Diseases." Tho' *Homer* always mentions *Podalirius* first, it appears to be only for adjusting his Verse; and what he says of *Machaon* in other respects, plainly shews that he was the most esteem'd of the two; and that he was sent for, preferably to his Brother, to attend the greatest Officers in the Army. It was *Machaon*, who had the Treatment of *Menelaus*, when he was wounded by *Pandarus*; he it was who cured *Philoctetes*, when lame of a Wound in one of his Feet, by the careless letting fall of an Arrow, dipt in the Blood of the Hydra. This Cure proves *Machaon* to be more skillful in his Art, than *Chiron* the Centaur, who could not cure himself of a Wound of this Nature.

As to other respects, the two Brothers were both Soldiers, as well as Physicians; and *Machaon* seems to have been the bravest of the two: He was of the Number of those who enter'd into the Wooden Horse, and once was wounded in the Shoulder, in a Sally made by the *Trojans*; at last he was killed in a Duel by *Nireus*, or, as others say, by *Eurypylus*, the Son of

Telephus, leaving, by his Wife *Anticlea*, two Sons, *Nicomachus* and *Gorgasus*, who lived at *Pheræ*, and possessed their Grandfather's Kingdom, till they were expelled by the *Heracidae*, on their Return from the Trojan War. *Pausanias* mentions three other Sons of *Machaon*, *Sphyrus*, *Alexanor*, and *Polemocrates*: Some of the Sons seem to have been Physicians; and, perhaps, they all followed their Father's Profession, which was preserved in the Family with great Care. It is not certain whether *Machaon* was a King in his own Right, or acquired it by his Wife; but *Homer*, in two or three Places, calls him *Pastor of the People*; a Title which he gives to *Agamemnon*, and the other Kings. *Pausanias* relates further, that *Machaon* was buried at *Metfene*, whither his Bones were carried from the Camp before *Troy*, by the Care of *Nestor*.

Podalirius, in his Return from the Trojan War, was cast by a Tempest on the Coasts of *Caria*, where a Shepherd, who had entertained him, having discover'd that he was a Physician, conducted him to the King *Damethus*, whose Daughter had fallen from the Top of an House. *Podalirius* cured her, by Bleeding in both Arms; which so pleased the King, that he gave her to him in Marriage, with the *Chersonesus*, where *Podalirius* built two Cities; one called *Syrnum*, from *Syrna*, the Name of his Wife; and the other *Bybussus*, which was the Name of the Shepherd, who had relieved and entertained him after his Shipwreck. *Podalirius*, besides other Children, had one called *Hippolochus*, from whom *Hippocrates* was said to be descended.

This is the first Instance we have upon Record of Phlebotomy, and is related by *Stephanus Byzantinus*.

MACHINA, *μηχανή, μηχανημα*, a Machine, in Medicine, signifies in a general Sense, the larger kinds of Chirurgical Instruments; particularly such as are contrived for the Reduction of Luxations: Of these *Oribasius* has left a particular Treatise. Sometimes it is to be understood particularly of the *Scannum Hippocraticis*; as in *Galen, Lib. 4. de Artic.*

MACHIS, a Term bestow'd by *Paracelsus* on all Beetles, and other Insects, which are not generated of Dung. *Paragraphor. Lib. 2. Sat. 5.*

MACIS. Mace. See NUX MOSCHATA.

MACOCKI *Virginiani sive Pepo Virginianus*. Ger. Emac. *Pepo Virginianus*. C. B. The *Virginian* Macock, or Pumpion. Raii Hist. Plant.

MACOCQUER, *Fructus orbicularis, Granis Cordis Effigie*. C. B. An orbicular Fruit, four Inches in Diameter, with an Heart-shaped Kernel. It is taken by *Ray* for a Species of the preceding. Raii Hist. Plant.

MACOUNA. A Species of *Phaseolus*, or Kidney-bean, growing in *Brasil*. Raii Hist. Plant.

MACAXOCOTLIFERA *Arbor Nieremberg*. A Tree in the *West-Indies*, about the Size of an ordinary Plum-tree: The Fruit is called *Macaxocotl*, and is red, and of a long Figure, of the Size of a moderate Walnut, with large Stones, and a scanty, soft, and juicy Pulp, yellow on the Inside like the Stone. This Fruit is eaten, and well-esteem'd, by *Europeans*, who are accustomed to them; for they loosen the Belly, and by their sweet Taste, mixed with a kind of Sharpness, are pleasing to the Palate. The second Species is the *Atoyaxacotl*, which is much less than the former, of a yellow Colour, orbicular Shape, of a finer Smell; has a smaller round Stone, and a more pleasant Taste. The third is the *Cozticxocotl*, as the *Mexicans* call it, which is esteem'd by many a Species of *Myrobalans*. This Sort is pale, large, spotted, and of a more grateful Pulp than the rest. The fourth is the *Atoyaxacotl Chichiltic*, which is the least of all, of a scarlet Colour, and of a sweeter Smell than the rest. The last is the *Chichilaxocotl*, which signifies *running down with Sweat*; this Species is of the Size of a Walnut, of the Colour of a Raisin, of a more plentiful Pulp, and smaller Stone, than the others. These Trees grow in hot open Countries, which are well cultivated and water'd. The Decoction of the Bark of the Trees cures the Itch, and Swellings in the Legs, and the Powder thereof heals Ulcers. It is common to all these Trees to produce their Fruit, which adheres to the Trunk and Branches, before their Leaves; which is a Property belonging to very few Trees. Of the Leaves are prepared acid Brines and Pickles, which are opening and loosening to the Belly. The Fruit affords no very grateful or wholesome Aliment. The Ashes of the Wood are used by the young Women to colour their Hair yellow. Raii Hist. Plant.

MACRAUCHEN, *μακραυχὴν*, from *μακρός*, long, and *αυχὴν*, a Neck, long-necked. *Galen, Com. 1. in 6. Epid. T. 3.*

MACROCEPHALUS, *μακροκέφαλος*, from *μακρός*, long, and *κεφαλή*, a Head. Long-headed. A Property or Affection endemic to some People of *Asia*, called therefore, by *Hippocrates, de Aëre, Ag. & Loc. Macrocephali*, Longheads.

MACROCOSMUS, the great, external, and extended World, with respect to Man, the *Microcosmos*, or little World. In adorning, displaying, and comparing these two Worlds, the Followers of *Paracelsus* and *Helmont* have exerted their Wits upon all Occasions. *Castellus.*

MACROPHYSOCEPHALUS, *μακροφυσοκέφαλος*, from *μακρός*, long, *φύσα*, a Flatus, and *κεφαλή*, a Head, is one who has

has his Head distended beyond its just Dimensions, by some flatulent Affection. *Castellus*.

MACROPIPER. See PIPER LONGUM.

MACROPNUS, μακρόπνους, from μακρός, long, and πνέω, to breathe, is one who fetches his Breath at long Intervals. *Hippocrates, Lib. 2. & 6 Epid.* Macropnus is opposed to Brachypnus. See BRACHYPNOEA.

MACULA, ἐξάνθημα, στίλβη, κίλιν, in Medicine, is a cutaneous Efflorescence, which changes the Colour of the Cuticle. There are *Maculae Pestilentes*, pestilential Spots, or Efflorescences. *Maculae Hepaticae*, hepatic Spots, or Efflorescences, proceeding from a Ichoreference of the Blood, attended with a sort of Coagulation. *Maculae Volaticae*, volatic, or soon vanishing Spots, familiar to Children, from a Fermentation of the sanguineous Ichor. *Macula* is, also, a Name for the *Nævi materni*, or native Spots and Blemishes, or for any morbose Mark or Character impressed on the Fœtus. *Macula Oculi*, in *Rulandus* and *Johnson*, is a Cataract or Suffusion. *Castellus*. *Maculae albae*, white Spots, are those Affections of the Cornea Tunica of the Eye, which are comprehended under the Names of *Albugo*, *Leucoma*, *Nebula*, and *Nubecula*. *Heister*.

MADAROS, μαδάρος, from μαδάω, to dissolve and melt away through an Excess of Moisture; smooth, bald; *μαδάστis*, (Madrotes, Madists) a Deflux, or Falling off of the Hair, Baldness.

MADAROSIS, μαδάρωσις, in a special Sense, is the same as *Milphosis*, μίλφωσις, or a Falling off of the Hairs of the Eyelids. See DEPLUMATIO. This kind of Affection belongs, and is ascribed, also, to very humid and foul Ulcers. *Hippocr. de Humor. and 6 Aph. 4.* where we read, τὰ περιμάδασα ἔλκεα κακοῦθια, "Ulcers, with a bald Circumference, are malignant."

MADEFACTIO, ὕγερσις. The same as HUMECTATIO; which see. *Madefactibilia*, Madefactibles, are such Things as admit adventitious Moisture into their innermost Substance, as Wool, and a Sponge. *Castellus*.

MADELCON, μάδελκον. A Name in *Dioscorides* for *Bdelium*.

MADIC. Butter-milk. *Rulandus*.

MADICUM. A Collyrium in *Oribasius, Synops. Lib. 3.* so called, because the Ingredients are levigated and moistened with Water.

MADISTERION, μαδιστήριον, an Instrument for rendering the Skin smooth, by taking away the Hairs.

MADOR, μάδω, superfluous or adventitious Moisture: *Cocta* (Things boiled) were called by the Antients *madida*, (moist); for *madere* with them meant the same as *coqui*, as is observed by *Rhodus ad Scribon. N° 41.* for, by Boiling, Things are moisten'd and soften'd. In the same Sense it is used by *Hellmont, Tr. Asthma & Tussis, N° 75.* where he denies, that *madida* (that is, *decocta*) dry up the Humours. In a preternatural State, the Sweat which arises under a Syncope, or Fainting, whether it be cold or hot, is not really *Sudor* (Sweat); but may, more properly, be called *Mador*.

MADREPORA, a petrifying Plant, growing in the Sea, and distinguished from Coral only by several Perforations in its Branches, which are pretty frequently disposed in the Form of a Star. It is commonly white, sometimes grey, sometimes red marked with white: There are many Species of it mentioned by *Imperatus, C. Bauhine*, and *Tournefort*. *Boerhaave* enumerates twenty-four.

Though the Madrepora has really its Origin and Growth in the Sea, it is sometimes found on the Land, and even in Places which are elevated, and at a good Distance from any Water. *M. fusileu* presented one to the Royal Academy of Sciences, in November 1709. which was found on the Mountain of *Chaumont* in *Normandy*. This Madrepora was porous, light, of a white Colour, and in all respects like the common Madrepora, resembling white Coral.

It is surprising, that a Substance, which, probably, had its Origin no-where but in the Sea, should be found in Places so far distant, and even on Mountains, as in its proper Matrice. But the Madrepora is not the only Production of the Sea, which we meet with on the Land, where we see Mountains, and other Places, abounding with a great Variety of petrefied Shells, which seem calcin'd by their long Continuance in that Situation. We find also Teeth of Fishes, and several other Parts of Sea-animals, which could never be carried thither, but by extraordinary Tempests and Inundations; and we might even go as far back as the Deluge to account for them.

All these petrefied Plants are alkaline and astringent: Levigated, and taken inwardly, they produce the Effects of Coral. The Dose is from half a Scruple to two Scruples, for a Diarrhoea and Hæmorrhages. *Lemery des Drogues*.

MÆMACYLON, (Oribas.) MEMACYLON, (*Dioscorides*). the Fruit of the ARBUTUS; which see.

MÆNA. Offic. Rondel. de Pisc. 1. 138. Bellon. de Aquat. 125. Gesn. de Pisc. 519. Aldrov. de Aquat. 223. Rail Ichth. 318. Ejuft. Synop. Pisc. 135. Charlt. Pisc. 25. Jons. de Pisc. 54. THE CACKEREL.

It is taken in the *Mediterranean* Sea. The Head, burnt to Ashes, and sprinkled on the Part, cures calous Fissures of the Anus. The Garum, prepared of the Fish is good to wash putrid Ulcers in the Mouth. *Dioscorides, Lib. 2. Cap. 32.*

MAGALAIZE, Maganaize, Magnesè, Magne, is a shining Mineral, much like Antimony, but more tender and brittle: There are two Sorts, the grey and the black; the first is very scarce; they are both found in the Quarries of *Piedmont*. It serves to purify and whiten, and is used by the Potters, Enamellers, and Glass-makers. *Lemery de Drogues*. See MAGNÉSIA.

MAGDALEONES. Masses of Plasters, or other Compositions reduced to a cylindrical Form; they are, also, called *Cylindri, κύλινδροι*.

MAGDALIÆ. The same with the preceding.

MAGDALIDES, in *Scribonius Largus, N° 201.* are the same as MAGDALEONES.

MAGIS, μαγίς, in general, signifies a Mass or Quantity of any thing, sufficient to fill the Hand; much the same as MAGMA. *Galen, Exeg. In Hippocrates, Lib. 1. de Morb. Mul. & de Steril.* it signifies, in a special Sense, a Composition of Heads of Garlick, strong Cheese, and Polenta, beaten up together, and made into a sort of Pudding. *Magis*, in *Pollux*, signifies a Kneading-trough.

MAGISTERIUM, Magistery, is a Term differently use; for, first, it is ascribed to Powders prepared by Solution and Precipitation, as Magistery of Hartshorn, and of Corals: Secondly, it is bestowed on Resins, or resinous Extracts, as Magistery of Scammony, of Jalap, and the like; though, accurately speaking, the true Magistery, they say, exists only when somewhat of a Menstruum remains united with the extracted Essence. *Schroder*.

Magistery is a Name which the antient Chymists gave to certain white and very light Precipitates: By this Term they would have us understand a very subtle and exquisite Preparation. *Lemery, Cours de Chymie*.

The Word Magistery is commonly used for a Powder, generally white, prepared of some certain Substances by Precipitation. These Substances are either of the mineral kind, as Earth and Stones; or Vegetables, as Herbs, and the like; or Animals, as Bones, Horns, and crustaceous Parts. The Method of preparing it is after the following manner: Take the Substance from which you design to prepare the Magistery, and bruise or break it grossly; then pour thereon a proper Liquor, an Acid or the like, in order to its Solution or Extraction. The Solution is precipitated by an Affusion of the Liquor, or by the Matter by whose Force that of the Solvent is blunted: The precipitated Powder may be washed, if necessary, with common Water, and afterwards gently dried. *Schroder, Lib. 2. Cap. 67.*

MAGISTRALIS. An Epithet bestowed on such Medicines, especially compound ones, as are prepared for present Use, and not to be found in the Shops, being the same with what are otherwise called *Medicamenta extemporanea*, extemporaneous Medicines. *Castellus*.

MAGISTRANTIA. The *Imperatoria*, Masterwort, is sometimes so called.

MAGMA, μάγμα, in a large Sense, signifies any thick Ointment, which is made up with but a small Quantity of Liquids, in order to prevent its running abroad. In a stricter Sense it means the Recrement of an Ointment, or the Fæces which are left after the Expression of the more liquid Parts. *Galen* restrains the Word *Magma* to the Fæces of Myrobalans, *Lib. 7. de C. M. P. G.*

MAGNA ARTERIA. The same as AORTA.

MAGNALE, μεγάλων. The Work of God. *Rulandus, Linden*. In *Paracelsus*, and his Followers, it signifies some occult and divine Virtue. *Hellmont* describes the *Magnale magnum* to be a kind of Spirit, who administers to Sympathy and Antipathy, is the Prompter and Promoter of Actions, and by virtue of which Magnetism is conveyed, as by a Vehicle, to a distant Object, *Tr. de Magnet. vulu*. Again, *Magnale*, he says, in mixt things, is the Æther, which is thinner than Air, and of an ambiguous Substance between Body and No Body, receiving only the external Constellations of its native Soil. *Paradox 2. N° 12.* and elsewhere. *Magnale*, as it has nothing like itself among created Beings, so it will admit of no Manifestation by Resemblance. The *Magnale* is not Light, but a sort of conjugal Form assisting the Air. *Tr. Vacuum Naturæ*.

MAGNES. Offic. Mer. Pin. 212. Schw. 384. Calceol. 257. Boerh. 438. Aldrov. Mus. Metall. 553. Worm 62. Charlt. Foss. 62. *Lapis Magnes*. Math. 1384. THE LOAD-STONE.

The Load-stone of the Shops, ἡλεκτρίδι λίθος and ἡλεκτρίτης of the Greeks, *Lapis Heracleus*, from *Heracles* a Town in *Lydia*; *Μαγνήτης*, from *Magnesia*, another Town in *Lydia*; *Σιδνητός*, from its attracting Iron; *Magnates* of *Avicenna*, and *Calamita* of *Rhazes*; is a ferruginous, dense, fossil Substance, of a blackish, bluish, or reddish Colour, attracting Iron, or another Magnet, or repelling them; and directing its Poles always to those of the World, when it is at Liberty to move. This Substance

is not to be confounded with the Magnes of *Theophrastus*, which, he says, was white, and shining like Silver; not hard, but easily made into Vessels by the Turners Art; neither did it attract Iron. It was, however, named from the same *Magnesia* in *Lydia*. Another Name of the Load-stone is *Lapis Lydius*, which is, also, applied to what we call the Touch-stone, by which the Truth of Gold and Silver are tried. These two Significations of *Lapis Lydius* are, therefore, carefully to be distinguished, because they are very different.

Some of the ancient *Greeks*, having observed the Virtue of the Magnet in repelling Iron, believed there were two Kinds of it, different from each other, one which attracted Iron, the other which repelled it.

The Load-stone is found in many Parts of *Europe*, and for the most part in Iron Mines; but the best are those which come from the *East Indies*, and *Ethiopia*. It is, undoubtedly, a kind of Iron Ore: and, in some Places in *Germany*, they actually extract the Iron it contains: When exposed in the Focus of a great Burning-glass, it, likewise, manifestly discovers Iron. The Virtues of the Magnet in attracting and repelling Iron, and in turning its own Poles to those of the World, are very wonderful; and especially its being able to communicate these Virtues to the Iron which it touches.

The Load-stone is not used inwardly in Physic; though *Galen* says it has the same Virtues as the Blood-stone; and, also, mentions its purgative Virtue, and recommends it, on that account, in Dropsies. *Dioscorides* proposes, that it be given in the Quantity of three Oboli, to evacuate gross melancholy Humours. Some think it possessed of a deleterious Quality, which is denied by others; but I imagine the poisonous Quality is to be understood of that kind of Magnes mentioned by *Theophrastus*, which I take to be a kind of native Litharge.

The true Load-stone, externally used, is drying, astringent, and consolidating. It is an Ingredient in the *Emplastrum Manus Dei*, *Emplastrum dromum*, *Emplastrum nigrum*, and *Emplastrum stypticum* of *Charas*. *Geoffroy*.

It is of an astringent Quality, and stops Bleeding; being burnt, it expels gross and atrabilious Humours, but it is seldom used. *Schroder*. It is prescribed in Hernias. *Hoffman*. *Paracelsus* makes it an Ingredient in a Plaster prepared, not only for extracting the Head of an Arrow from the human Body, but all manner of Dirt and Filth whatever. *Dale*.

MAGNES ALBUS. *Monr. Exot.* 13. *Magnes candidus*. *Kentm.* 14. THE WHITE LOAD-STONE. *Dale*.

This Load-stone is called, by the *Italians*, *Calamita alba*, and *Magnes carnea*; because, as the true Load-stone draws Iron, this is supposed to draw Flesh. It is a white Stone, marked with black Spots, which, if laid on the Tongue, sticks very closely to it; and is no other than a kind of rocky Marl, found sometimes in the same Mines with the Load-stone. It is foolishly and fictitiously said to be of wonderful Efficacy in Love Affairs. *Geoffroy*.

According to *Monti*, it absterges with an Astringency, and is to be reckoned among Antarthritics, Antiscorbutics, and Aperitives. *Dale*.

MAGNESIA is commonly the same as *Marcasita*, a Marcasite; but, as a Term of Art, signifies melted Tin, into which Mercury being cast, is thoroughly mixed and incorporated with it into a brittle Substance, and white Mass. It is, also, *Argentum Mercurio Mixtura*, a Mixture of Silver and Mercury, and a very fusile Metal, dissoluble as Wax, and of a most surprising Whiteness, called the *Magnesia Philosophorum*, the Philosophers Magnesia. Again, it is taken for the Matter of the Philosophers Stone, and for Sulphur. *Rulandus*, *Jobson*. Synonymous Terms for this Arcanum or grand Secret of the Philosophers in the Magistery of the Stone (*in Magisterio Lapidis*) are *Lac Maris*, *Coagulum*, *Aphrodisium Orientis*, *Magnesia Lydiæ*, *Italicum Stimbum*, *Pyrites Albæ*. *Theat. Chym. Vol. 1. p. 778*. Antimony is, also, called *Magnesia Saturni*. *Schroder, Lib. 3. Cap. 17. Castellus*.

MAGNESIA. *Offic. Geoff. Laet. Ed. Angl.* 178. *Manganese*. *Mer. Pin.* 212. *Schwench. Not. in Boerh. Chym.* 140. *Sapo vitri*. *Mer. Ars Vit.* SOAP OF GLASS.

Magnesia, or Maganetia, is a fossil, metallic, ferruginous Substance, resembling Antimony in its shining Colour, and very brittle. *Pomet* mentions two Kinds of it, one Ash-coloured, which is not easy to be got, and, therefore, little used; the other black, which is very common. It is used in making and purifying of Glass; for, by mixing a small Quantity of it with the Glass, whilst in Fusion, it clears it from any green or bluish Colours, and makes it more transparent and bright: On that account *Merret* termed it *Sapo Vitri*. If too great a Quantity be put in, it gives the Glass a purple Colour. It is used by Pottery in colouring their Vessels black, as the *Zaffara* is for blue. *Merret*, also, says, the best Manganese is that which is hard, heavy, sparkling, and blackish, and which, being reduced to Powder, turns Lead black. It is dug in *Germany*, *Italy*, *Piedmont*, and in *England* near the *Mendip Hills* in *Somersetshire*, famous for Lead Mines: And accordingly *Merret* tells us, that where-ever the Miners find Manganese, they conclude, that there

is Lead Ore under it; but whether it contains any Lead, or not, has not hitherto been discovered. It is not used in Physic. *Geoffroy*.

MAGNESIA ALBA.

How prejudicial and virulent a Quality drastic Purgatives are possessed of, is sufficiently known to the Skilful in the Healing Art. For this Reason a Medicine capable of safely and efficaciously eliminating the Contents of the Intestines has been long sought after. And, since most Purgatives, in consequence of their acrid salino-sulphureous Principle, are neither grateful to the Smell nor Taste, but create a certain Nausea, Physicians have long eagerly wished for a Purgative, which was both grateful to the Palate, and fragrant to the Smell. For this Reason *Helmont*, observing that ungrateful and drastic Purgatives were only to be obtained from the Vegetable Kingdom, earnestly wished, that an efficacious one of opposite Qualities might be found in the Mineral Kingdom.

But such a Medicine was long and in vain sought for, till, at last, there appeared at *Rome* a highly white Powder, without either Taste or Smell, of an highly light and tender Substance; one Dram of which not only procured several Stools, without any Disadvantage or Loss of Strength, but, also, purged hypochondriac Patients, and those whose Primæ Viæ were loaded with acid Juices, incapable of being easily carried off by other Purgatives, whilst it at once destroyed and eliminated the offending Acid. This Powder appeared under the Name of *Magnesia alba*; but its first and genuine Inventor is not certainly known. At *Rome* it bore the Name of the Count of *Palma*, though many are of Opinion, that the Preparation was carried from *Germany* to *Italy*.

What I myself know of this Powder, I shall, without any Reserve, communicate to the Public. Upwards of fourteen Years ago, *Johannes Siboldus*, an able Chymist, and an Acquaintance of *Helwigius*, Author of the *Physica instaurata inaudita*, was at *Magdeburg*: These two Gentlemen, according to *Katschius*, a Physician at *Halle*, and formerly Amanuensis to *Siboldus*, were in Quest of a Spirit, or universal Menstruum, extracted from nitrous Earth. With this View they not only distilled by an open Fire, from a Retort, those Earths from which Nitre is extracted, after having long exposed them to the Sun, by which means they obtained a volatile urinous Spirit; but they, also, washed these Earths with Water, boiled the Lixivium prepared from it, and distilled the remaining Mass from a Retort. By this means a redish Spirit was obtained; and, by a stronger Degree of Fire, a Caput mortuum was left, of an highly white Colour, insipid, light, and to which they gave the Name of the *Magnesia of Nitre*. But of its Virtues, or purgative Quality, nothing was at this time known.

From what has been said, it is sufficiently obvious, that the Origins and Natures of this Magnesia, and of the Powder prepared from the Lixivium of Nitre, are pretty much the same: For this general Account sufficiently shews, that both the Preparation and Name of this Powder were known in *Germany* much sooner than in any other Country. And it is probable, that *Helwigius*, who afterwards travelled through the Provinces of the *Indies*, and *Italy*, together with other Medicines, communicated this, also, to the *Italians*.

But, that we may form a right Judgment of the Nature and Efficacy of this Medicine, we must observe, that this Powder is entirely insipid, of a white Colour, and of an highly alkaline Quality, since it not only produces a violent Effervescence with every Acid, but because an Acid, also, dissolves that Earth. The Solution made by this means, which is of an highly bitter, saline, and acrid Taste, sufficiently shews, that the Powder is of an alkaline, earthy, dissolvable, and, at the same time, a sulphureous Nature, because the Solution is highly bitter. On the contrary, other alkaline Substances, such as Crabs-eyes, Egg-shells, and prepared Shells, by an Assusion of Spirit of Vitriol, produce a strong Ebullition; but their Solution is so far from being bitter, or excessively salt, that it is only gently so, or rather entirely insipid. The Powder of Quick-lime, though generally accounted an alkaline Earth, neither produces an Effervescence upon an Assusion of the Spirit of Vitriol, which these Substances do, nor is a palpably saline Taste produced; but, though there is a large Quantity of the Powder of Quick-lime added, the Spirit of Vitriol still continues acid, its corrosive Quality being only a little mitigated.

It is certain, that, in some Patients, one or two Drams of the Magnesia purge pretty briskly, by procuring five or six Stools; whereas, in others, the same Dose produces no more than Efforts to an Evacuation of the Fæces. The Reason of this Diversity of Effects is sufficiently obvious from what has been said; for it is certain, that this earthy Powder by no means contains a cathartic Principle, which can only consist in the saline, penetrating, and acrid Quality of any Substance; but that its purgative Virtue results from the particular Disposition of the Humours lodged in the Body; because, if it meets with acid Humours in the Cavities of the Stomach and Intestines, it is converted into a neutral Salt, of an acrid saline Taste, and of a stimulating Quality, since we observe, that an highly acrid

Salt

Salt is produced, when this Medicine is mixed with Spirit of Vitriol. Now we know from Experience, that large Doses of bitterish neutral Salts procure several Stools, as *Hoffman* has shewn, in his *Dissert. de Salium mediorum eccellente & purgante Natura*. It is not, therefore, surprising, that this Powder should be sometimes destitute of a purgative Virtue; when, for Instance, the Primæ Viæ do not abound with Acids, but with a viscid Phlegm, which hinders it from being dissolved, and converted into a stimulating Salt.

But I am not ignorant, that some Objection may be made to this Opinion; since other earthy Substances, which quickly resolve and absorb the Acid lodged in the Primæ Viæ, by no means prove laxative. But to this it may be answer'd, that sometimes the Body is render'd soluble by the absorbent or bezoardic Powders, if there is a large Quantity of Acid lodged in the Primæ Viæ. But the purgative Virtue of these is not so great as that of the Magnesia; because their Solutions with acid Liquors are not so considerably saline and acrid, as the Solutions of the Magnesia with the same acid Liquors; since the former are only possess'd of a moderately saline Taste. Hence it appears, that, besides the earthy, there is, also, another Principle in the Magnesia, which, upon the Admixture of an Acid, is converted into a stimulating and purgative Substance.

But that we may more effectually investigate the Causes and Reasons of this purgative Quality in the Magnesia, it is necessary we should make an accurate Inquiry into the Matter of which it is made. This, therefore, is nothing but a Lixivium, remaining after the Crystallization of Nitre, called by the Nitre-makers, *Mother-water of Nitre*; because, without the Addition of it, there can be no Coagulation of the Nitre into Crystals, though, from this alone, no Nitre in a crystalline Form can be procured.

This Lixivium, upon investigating its Nature, is,

1. Highly heavy and ponderous; for one medicinal Pint of it is more than five Ounces heavier than an equal Quantity of Water; and the Proportion of its Weight, to that of Oil of Vitriol is as ten to eighteen: For one medicinal Pint of Oil of Vitriol, is eighteen half Ounces heavier than the same Quantity of Water; one medicinal Pint, therefore, of this Lixivium contains five Ounces of solid Matter.

2. This Lixivium is of an highly bitter and saline Taste, and, upon Evaporation, cannot be dried; but is immediately dissolved by the Air.

3. This Lixivium does not produce an Effervescence with any gentle Acid, such as Spirit of Vitriol; but with Oil of Vitriol it produces a strong Ebullition; and, with both, a Powder of a white Colour is precipitated to the Bottom: And what is to be carefully observed, is, that the Oil of Vitriol, when poured upon it, not only produces a Noise, but, also, sends forth a redish Smoke; which is a sufficient Proof, that some Portion of the Spirit of Nitre is as yet lodged in it. The Smell, also, discovers that some Portion of the Spirit of Salt is lodged in it; nor is it to be doubted, but that, from this Lixivium, an excellent Aqua Regia might be prepared; such as that commonly obtained from the Acid of Salt and Nitre: It is, also, sufficiently obvious, that the Particles of Nitre, and common Salt, are in this Lixivium contained under the Form of pingueous and sulphureous Particles.

4. Tho' Oil of Vitriol, or any strong Acid, mixed with this Lixivium, produces a violent Effervescence; it is yet surprising, that the fuming Spirit of Nitre, which is a strong Acid, does not give the smallest Sign of an Effervescence, when mixed with it: A Phenomenon which, among others, surprisingly proves the different Natures and Virtues of Acids.

5. This Lixivium, when mixed with an alkaline Liquor, whether of a volatile or fixed Nature, such as urinous Spirit of Sal Ammoniac, prepared with Water, or Oil of Tartar per Deliquium, produces no Ebullition; but there ensues a very considerable Precipitation of an earthy whitish Powder.

6. This Lixivium, when mixed with an equal Quantity of highly rectified Spirit of Wine, is intimately incorporated with it; only a certain earthy Matter remains in the Bottom of the Vessel.

7. This Lixivium, when coagulated by means of the Fire, and put into an ignited Crucible, produces a strong Ebullition and Froth: Then, upon increasing the Fire, a Spirit like Aqua Fortis, of a scid Smell, and which some preserve, is yielded under the Form of a red Smoke. Afterwards, upon raising the Fire still higher, the Powder called the Magnesia remains; and this is the most common Method of preparing this Medicine.

8. A more compendious Method of preparing this Powder is by a Precipitation of the Lixivium, either with the Acid of Vitriol, a Lixivium of Pot-ash, or Oil of Tartar per Deliquium: Then this Earth is to be washed with River-water, and dried.

But, that the genuine Nature of the several Ingredients contained in this Lixivium may be the more accurately discover'd, it is necessary, carefully to investigate how, and of what Matter, the inflammable Nitre is prepar'd. Now, in order to the Elaboration of Nitre, putrefied Earths, obtained from the Excrements of Animals; old Earths, obtained from Walls, and burnt Buildings, which have been long exposed to the Influence of the

Sun and Winds, and by that means render'd very fine; as, also, the Ashes of Wood, together with Quick-lime, are absolutely necessary: And from all these, in Conjunction with Water, is prepared the Lixivium of Nitre, which is formed into a crystalline Salt; and the remaining Part is the Lixivium called *the Mother-water*.

From what has been said, it is sufficiently obvious, that, since neither a sulphureous, nor an earthy Principle, contribute to Crystallization, these Principles are principally contained in the Lixivium of Nitre, prepared of the above-mentioned Ingredients; and that the other Principles remain in the Mother Lixivium. This Lixivium consists of a certain Salt, approaching to the Nature of an acid and common Salt, and which, when mixed with subtiler, earthy, alkaline, sulphureous, and pingueous Parts, constitutes a Lixivium of a saline and bitterish Taste, from which the above-mentioned Effects and Phenomena proceed: And to me this Lixivium appears highly similar to that generally prepar'd of Quick-lime and Sal Ammoniac; for when the Caput Mortuum of the Spirit of Sal Ammoniac, prepared with Quicklime, is dissolved in Water, by this means, a bitterish acrid Lixivium is obtained, which when inspissated with Spirit of Sal Ammoniac, or Oil of Tartar per Deliquium, without any Effervescence a Precipitate falls to the Bottom, in the Form of an earthy Powder. This, also, happens with Oil of Vitriol; but with no other Acid, whether mild or strong, such as Spiritus Nitri fumans, does it produce any Noise or Ebullition, though, at the same time, it is precipitated by the Affusion of every Acid.

Having thus traced the Origin of the Magnesia, we need not hesitate to affirm, that it consists of the more subtiler Earth of Quick-lime, and the other Ingredients of Nitre, variously obtain'd from the Lixivium by a Separation of the saline Parts: This subtiler Earth, however, differs from crude and unprepared Quick-lime.

For, tho' Quick-lime is an earthy Alkali of an highly acrid Taste, yet it neither produces an Effervescence with an acrid Liquor, nor is coagulated into a Sal fissum, which is produced by an Admixture of the Magnesia with any acid Spirit, such as that of Vitriol. This Alkali is, therefore, far more tender and subtiler than burnt Quick-lime: Nor is it a Remedy destitute of uncommon Efficacy, provided it is exhibited according to the different States and Circumstances of Patients; for it is not only absorbent and cathartic, when acid Sordes are lodged in the Primæ Viæ; but, also, when exhibited in a small Dose, fifteen or twenty Grains, for Instance, I have often found it prove both diaphoretic and diuretic.

Nor must we forget to mention a Disadvantage, with which I have seen the too frequent Use of the Magnesia attended; which is, that it leaves Flatulences, and gnawing Pains, in the lower Part of the Abdomen, and has a Tendency to generate corrosive Juices in the Primæ Viæ, as generally happens in hypochondriac Patients. The most commodious Vehicle in which it can be exhibited, is Almond-milk, which has a Tendency to correct the Acrimony of the Humours stagnating in the Stomach. *Hoffman, Observ. Phys. Chym. Lib. 4. Obs. 2.*

MAGNESIA OPALINA.

In making the Liver of Antimony, some add, to the Antimony and Nitre, decrepitated Sal Ammoniac; and thus make what is called the Opalin, or Ruby-colour'd *Magnesia* of Antimony, from its red Colour, which is a much weaker Emetic than the Liver of Antimony; and does not cause Vomiting in Horses, and other Quadrupeds, but only makes them sweat, or increases Perspiration. It is given to such Brutes, from one to three Ounces every Day, for several Weeks together, to fatten them, and cure their cutaneous Diseases, or other Indispositions. *Geoffroy.*

Leмери directs the *Magnesia Opalina* to be made of equal Parts of Antimony, Nitre, and decrepitated Sea-salt.

MAGNETICUS. An Epithet of some Medicines, particularly Plasters, not only in a proper Sense, on account of their containing Particles of the Loadstone in their Composition, but in a tropical Signification; because they are supposed to act by an occult attractive Force, in manner of the Loadstone. Such is the Emplastrum magneticum, in *Schroder, Lib. 2. Cap. 53.* and that of *Cnæsius*, prepared of Amber and a dried Load. *Castellus.*

MAGNETINUS, an Epithet of Tartar. *Magnetinus Tartarus*, in *Paracelsus, Lib. 1. de Tartar.* is a very hard and spongy Stone.

MAGNOLIA. The Laurel-leaved Tulip-tree.

The Characters are;

It hath a rosaceous Flower, consisting of several Leaves, which are placed in a circular Order, from out of whose Cup arises the Pointal, which afterwards becomes an hard conical Fruit, with many Tubes or Risings, in each of which is contained one hard Nut, which, when emitted, hangs by a long String. *Miller* mentions three Species of this Plant; which are,

1. *Magnolia Lauri folio subtus albicante. Catesb. The lesser Laurel-leaved Tulip-tree, or sweet-flowering Bay.*

2. *Magnolia altissima, Laurocerati folio amplissimo, flore ingenti candido. Catesb. Commonly called the Laurel-leaved Tulip-tree, or Carolina Laurel.*

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3. *Magnolia amplissimo flore albo; fructu cœruleo.* *Plum. Nov. Gen. American Laurel, with very large Leaves, a white Flower, and blue Fruit.*

MAGNUS, μέγας, great, is applied to various Subjects in Medicine, both natural and preternatural: Thus we read of the great Artery, a great Pulse, a great Fever; the Epilepsy, in particular, is called by *Hippocrates*, 6 *Epid.* the great Disease.

MAJOR, μέζων, greater, the Comparative, is ascribed to the ultimate Perfection of the Philosophers Stone, which is called the *Majus perfectum*, consisting of four Colours, and endued with a Power of multiplying its Species. *Theat. Chym. Vol. 1.*

MAXIMUS, μέγιστος, the greatest, is applied by *Paracelsus*, de *Morbis Amentium*, Tr. 2. Cap. 4. to a peculiar Remedy of his against Madness, and the Suffocation, as he calls it, of the Understanding. *Castellus.*

MAGORINA. A Word coin'd by *Paracelsus*, out of Spite to the Universities, to signify the *Idolum Academicum*, as he calls it, which disturbs and confounds all Speculations. *Fragment. de Morb. Gallic. & de Apostem. C. 2.*

MAGORREUM, the characteristic Cure of Wounds, so called by *Paracelsus*, *Lib. 2. de Vit. long. Cap. 24.*

MAGOS, μάγος, the Name of a Plaster described by *Aetius*, *Tetrab. 3. Sermon. 2. Cap. 25.* recommended for drying and conglutinating sinuous and fistulous Ulcers, and for the Dropsy, and watery Hernias. It is, also, called *Hephæstias*.

MAGRA, Red Earth; also the Cornelian. *Rulandus.*

MAGUDARIS. A Name in *Dioscorides*, for the *Silphium*.

MAGUEL. A Name which the *Americans* give to some Species of the Aloe. *Ray.*

MAGUS. See MAGOS.

MAHALEB. *Raii.* See CERASUS.

———— *Serapionis.* A Name for the *Phyllyrea*; *latifolia*; *levis*.

MAIA, Μαία, μάϊα, the largest Species of Sea-crabs.

MAIL ANSCHII. A Species of *Rhamnus*, growing in *Malabar*.

A Decoction of the Root is effectual in the Gout; a Decoction of the Leaves, with Sugar, is good for the Jaundice; and so are the Leaves simply taken in Milk. The expressed Juice of the Leaves taken in Cows-milk, with Sugar, is good for those who evacuate a white and purulent Urine. *Raii Hist. Plant.*

MAIL ELOU. *Arbor baccifera trifolia Malabarica simplicifolia cum pluribus Nucleis.* H. M. *Lusitanis* Carilla. This is a tall Tree, fifty Feet in Height, growing in many Parts of *Malabar*; is an Evergreen, and flowers and bears Fruit once, and sometimes twice in a Year.

Of the Leaves and Bark, bruised, and boiled in an Infusion of Rice, is prepared an Apozem, which is an effectual Remedy in Pains after Child-birth, expelling the Secundines, and promoting the Discharge of the Lochia. The same is prescribed as ordinary Drink for Men or Women, of an excessively gross and fat Habit of Body, in order to their gradual Extenuation. The Juice of the green Bark, taken with the Milk of the ripe Cocoa-nut, cures the Diarrhoea, and removes the Pain of the Colic. Of the tender Branches of this Tree, and of the *Paal-valli*, bruised and boiled together in Water, they prepare a Bath against inveterate Fevers, the Gout, and all manner of Pains in the Joints. *Raii Hist. Plant. p. 1557.*

MAIL ELOU KAROU. *Arbor baccifera Malabarica, folio pin-nato, floribus umbellatis simplicifolia cum pluribus Nucleis.* H. M. It is a vast Tree, taller than the *Mail Elou*, and growing in the hilly and rocky Parts of *Malabar*; is an Evergreen, flowers and bears Fruit once every Year, and lives above two hundred Years.

The Wood, besides its Usefulness to the Joiner and Carpenter, is extolled for its Efficacy in the Diarrhoea, Dysentery, and Tenesmus. The Leaves, boiled with Pepper, and the Seed of *Coddapala*, in an Infusion of Rice, are an Antidote against the Bites and Stings of Serpents, Scorpions, and other venomous Creatures. Of the Bark, bruised and boiled, is prepared a Medicine to dissolve Blood coagulated in the Body by means of a Fall. *Raii Hist. Plant. p. 1558.*

MAIL OMBI *Malabarensibus.* *Baccifera Indica racemosa Fructu umbilicato rotundo monopyreno.* H. M. Is a Tree of the Bigness of an ordinary Apple-tree, growing in many Places of *Malabar*, always green, and bearing Fruit twice in a Year, that is, in April and September. As to its Virtues, we have no certain Account. *Raii Hist. Plant. p. 1500.*

MAJORANA.

The Characters are;

The Galea is erect, roundish and bifid; the Beard is tripartite, and appears almost like a quinquefid Flower. The Flowers are collected into round, close, short Heads, composed of four Orders of small Leaves lying one upon another in the nature of Scales.

Boerhaave mentions three Species of this Plant; which are,

1. *Majorana*; vulgaris. See AMARACUS.

2. *Majorana*; rotundifolia; scutellata; exotica. H. R. *Par. 114.* *Origani cognata, Zatarendi.* C. B. P. 223. *Zatarbendi Herba.* J. B. 3. 2. 256.

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3. *Majorana*; Cretica; *Origani foliis*; villosa; Satureiæ odore; corymbis majoribus, albis. T. Cor. 13. *Origanum Smyrniacum.* *Whe-ler. Itin. 243.* *Boerh. Ind. alt. Plant. Vol. 1. p. 178.*

MAJORANA SYRIACA. A Name for the *Marum*; *Syracum*; *vel Creticum.*

Besides the foregoing Species of *Marjoram*, *Dale* mentions the two following; which are,

1. *Majorana tenuifolia.* C. B. P. 224. *Raii Hist. 1. 538.* Ger. 539. *Emac. 664.* *Park. Theat. 11.* *Tourn. Inst. 200.* *Majorana tenuior & lignosior.* J. B. 3. 241. MARJORAM GENTLE, or PERENNIAL.

It is cultivated in Gardens, and the Herb is in Use, which agrees in Virtues with the *Amaracus.* *Dale.*

2. *Majorana Oleracea.* *Offic. Majorana major, Anglica.* Ger. 538. *Emac. 664.* *Raii Hist. 1. 539.* *Majorana latifolia sive major, Anglica.* *Park. Theat. 12.* *Origanum Onites.* C. B. P. 223. *Raii Synop. 3. 296.* *Tourn. Inst. 199.* POT MARJORAM.

It is cultivated in Gardens among other culinary Herbs, and agrees in Virtues with the *Origanum sylvestre*, *Cunila bubula* *Plinii.* *Dale.*

MALA	{	ÆTHIOPICA,	See	{	LYCOPERSICON; FRUCTU STRIATO; DURO.
		ARMENIACA,			ARMENIACA MALUS.
		AURANTIA,			AURANTIA.
		CITRIA,			CITRUM.
		CYDONIA,			CYDONIA.
		GRANATA,			PUNICA.
		INSANA,			MELONGENA; FRUCTU OBLONGO; VIOLACEO.
		LIMONIA,			LIMON.

MALABATHRINUM, μαλαβάθρινον [μύρον] Ointment of *Malabathrum*, is inspissated with the same Ingredients, as the *Unguentum nardinum*, or Ointment of Spikenard [see NARDUS]; only more Myrrh is added to it, which renders it of a heating Quality; in Virtues it agrees with the *Crocinum* and *Amaracinum*. See AMARACUS and CROCINUM. *Dioscorides, Lib. 1. Cap. 76.*

MALABATHRINUM Vinum, μαλαβάθρου δινον, Wine of *Malabathrum*, is prepared, by putting half a Pound of *Malabathrum* into two Congii of Must, and straining it off after two Months; the Dose is one Cyathus, mix'd with three Cyathi of Water. This Wine is effectual in Diseases of the Kidneys and Liver, for the Jaundice and Dysury, for those who have lost their Colour, or are disorder'd in their Stomach. Some add an Ounce or two of Acorns, or three Ounces of Celtic Nard to a Ceramium [about nine Gallons] of Must. *Dioscorides, Lib. 5. Cap. 67.*

MALABATHRUM.

Folium Indum seu Malabathrum. *Park. Theat. 1584.* *Folium Indum Malabathrum.* *Mont. Exot. 8.* *Malabathrum sive Folium Indum.* *Chab. 33.* *Malabathrum & Folium Indum Officinarum.* *J. B. 1. 430.* *Tamalapatra.* Ger. 1315. *Emac. 1534.* *Tamalapatrum sive Folium.* C. B. P. 409. *Canella sylvestris Malabarica.* *Raii Hist. 2. 1502.* *Comm. Flor. Mal. 68.* *Canella arbor sylvestris.* *Munting. 120.* *Canella sive Cinnamomum vulgare crassiore cortice.* *J. B. 451.* *Chab. 34.* *Katon Karva.* *Hort. Mal. 5. 105.* *Tab. 53.* *Pseudo-cassia Dioscoridis.* *Jonst. Dendr. 162.* *Pseudo-cassia sive Cinnamomum vulgare crassiore cortice.* *J. B. 1. 451.* *Canella seu Cinnamomum vulgare crassiore cortice.* *Chab. 34.* *Raii Hist. 2. 1562.* *Cinnamomum seu Cassia crassior, Pseudo-cassia.* C. B. P. 409. *Cinnamomum crassiore cortice.* *Ejusd.* INDIAN LEAVES. *Dale.*

These are pretty large Leaves, of a thick, firm Texture, of a yellowish Colour, in Shape of a large Bay-leaf, but sharper-pointed, and smoother, having three remarkable Nerves or Ribs, running through all the whole Length of the Leaf, of a pleasant, hot, spicy Smell and Taste. They are generally believed to be the Leaves of the *Cassia-lignea*, or Cinnamon-tree, or both; for, upon comparing them with the Leaves of the true Cinnamon, I can find very little Difference either in Shape or Colour, Smell or Taste. How far the Leaves of the *Canella Malabarica*, which are esteemed to be the true *Folia Indæ*, differ from these, is uncertain, since they are never brought to us, these supplying their Place; and I question not, but to as good Purpose. They are seldom used now, Mace being appointed in our Dispensatories in their stead. *Miller's Bot. Off.*

This is the Leaf of a kind of wild Cinnamon-tree, brought us from *Malabar*, and other Places of the *East Indies*. These Leaves are distinguish'd from the true Cinnamon-leaves, by their being less aromatic. Their Virtues are cordial and alexipharmic. *Geoffroy.*

The *Folium Indum*, or *Tamalapatra*, according to the Observation of the very curious *Fab. Columna*, agrees in all respects with the Leaf of the *Canella*, excepting the Taste. *Dioscorides* writes, that this Leaf swims on the Waters, after the manner of the *Lens palustris*, supported by no Root. The Antients, says *Scaliger*, dreamed; for we, who have carry'd our Discoveries to the uttermost Parts of the *Arabias* and *Indias*, could never meet with this wonderful Leaf. *Garcias* also assures us, that the *Greeks* were mistaken in this Matter; for the *Indian* Leaf, he says, does not swim on the Waters, but grows on an high Tree, remote from the Waters, in *Cambaya*, and many other Places. The Natives call it *Tamalapatra*; which Word the *Greeks* corrupted into *Malabathrum*.

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The *Malabathrum* is said to agree in Virtues with Spikenard, particularly in powerfully provoking Urine, correcting a Foetor of the Mouth, and preserving Garments from Erosions by Worms. *Raii Hist. Plant.*

MALACHE, *μαλαχὴ*, from *μαλάω*, to mollify, is either a loosening Medicine for the Belly, or one to ripen hard Tumors. *Blancard.*

MALACHITES. *Offic. Charlt. Foss. 33. Calc. Mus. 218. Aldrov. Mus. Metall. 900. Worm. 95. Malachites. vel Molo-chites. 263. De Lact. 87. THE MALACHITE.*

It may be taken for a Species of the Jasper, or Prasus. It is opaque, and of a Mallow-green, whence it has its Name, *μαλάχην, Malache*, in Greek, signifying a Mallow. It is found in Cyprus, Meissen, and the Country Tirol, and is exhibited as a Febrifuge.

MALACIA, *μαλακία, κίψα*. See PICA.

MALACION, *μαλάκιον*, from *μαλακός*, soft, is a Term for a Fish which has no Scales, such as the Sepia, or Cattle-fish. Sea-hare, and Urtica or Sea-blubber. Those kind of Fish were supposed by the Antients to be void of Blood and Bowels: They are now ranged under the Head of *Exanguia Mollia*, five *Mollusca. Cassellus. Dale.*

MALACODERMOS, *μαλακόδερμος*, from *μαλακός*, soft, and *δέρμα*, the Skin, is an Epithet of such Animals as have a soft Skin; by way of Distinction from the *Ostracodermi*, *ὄστρακόδερμοι*, testaceous Animals.

MALACOIDES.

The Characters are;

It has the Flower and Appearance of the Mallow, and a dry Fruit like that of the Rubus, consisting of a Multitude of Capsules collected into an Head, like a Cluster of Grapes, and full of Kidney-shaped Seeds.

Boerhaave mentions but one Sort of this Plant; which is, Malacoides; *Betonica folio. T. 98. Malva; Betonica folio. Roc. Ic. 15. & Deser. Zanon. H. 130. M. H. 2. 522. Boerb. Ind. alt. Plant. V. 1. p. 271.*

The Name is derived from *μαλακή*, the Mallow, and *εἶδος*, the Form or Resemblance, that is to say, having the Form or Appearance of the Mallow; which it, also, resembles in Virtues. *Elst. Plant. ascript. Boerhaav.*

MALACOS, *μαλακός, μαλακός*, Soft, is opposed to Hard. A thing is said to be soft when it yields to the Touch without changing Place; others describe it as a Medium between Hard and Liquid, which easily gives way if pressed, without surrounding the pressing Organ; of which Nature are Wax, Clay, and the like. The Epithet is applied to various Substances, as to the Skin, the Pulse, and to Vines, which are said to be soft when they are sweet, mild, and delicate, in Opposition to austere, generous, hard. Soft is sometimes used for Humid, as in *Hippocrates, Lib. de Salub. Diet.* Sometimes it is applied to Diseases in a moderate or remiss State, as 1 *Aph. 7.* and by *Scribonius Largus, N. 201.* to recent Ulcers.

MALACTICOS, *μαλακτικός*, from *μαλάω*, to soften. The same as EMOLLIENS. See EMOLLIENTIA.

MALA-ELENGI, *baccifera Indica, flore composito. H. M.* Is a Tree of a moderate Bigness, and about twenty Foot high, growing in *Malabar*, ever green, and bearing Fruit once a Year.

Of the Leaves boiled with Pepper, and Calamus Aromaticus in Oil of Sesamum, is prepared a Liniment for the Head, which is very much commended for the Vertigo, Epilepsy, and the like cephalic Affections. Of the Bark, with Frankincense and Opium, is prepared an Ointment, which is said to be a potent Remedy for Affections of the Liver, the Region of that Part being anointed therewith. The Kernels of the Fruit are tied up in a Bag with Pepper, and worn about the Neck as an Amulet and Preservative against the Epilepsy. *Raii Hist. Plant.*

MALAGMA, *μάλασμα*, from *μαλάω*, to mollify, is the same as CATAPLASMA, though it bears, also, a stricter Sense, as it signifies particularly such Cataplasms as are of an emollient Quality. *Galen, Lib. 7. de C. M. P. G.*

A Malagma was the Form of a Topic, not very different from a Plaster. At first it seems to be applied principally to Emollients, by its Name; but afterwards was applied to Astringents, or any other Topics of the same Form. It consisted principally of Gums, Aromatics, and other stimulating Ingredients, as Salts and the like. Sometimes a very little Quantity of Oils or Aungias, entered into three Compositions, and a little Wax. Sometimes there was little besides Gums, dissolved in Wine or Vinegar, and Resins, which hardened to a Consistence of themselves. These were reduced to Powder, and moistened with some Liquor, when applied to any Part.

MALAKKA-PELA. A Name for the *Guajava; rubra; acida; fructu rotundiori.*

MALAGRETA. A Spanish Word for the greater Cardamoms, or Grains of Paradise, as *Fuchsius* observes in his Notes on *Myrsus, Antid. Cap. 22.* at the Word *Menegeta*, a barbarous Term of the same Import.

MALANDRIA. A Disease in Horses, called the *Malanders*, being an ulcerous kind of Fissure under the Ham. It is, also,

M A L

a Species of Elephantiasis, or Lepra: Whence the Patient labouring under it are called by *Marcellus Empiricus, Malandri-osi.*

MALAVISCUS. The Alhæa, or Marshmallow, is sometimes called by this Neme.

MALAZISSATUS. One who has his Testicles concealed in the inward Parts; he is otherwise called *Emasculatus*, and *Mulieratus.*

MALE, *μᾶλη*, for *μασχάλη*, the Armpit, is no Greek Word, as *Rufus Ephesius* says, *Cap. 10.* Or, according to *Pollux*, is a Term *ἰδιωματικῶν*, in Use among the Vulgar; though it be common to say *ὑπὸ μάλῃς ἔχειν*, to have, or conceal, something under the Armpit.

MALER. Salt. *Rulandus.*

MALICORIUM. The Peel of the Pomgranate. See PUNICA MALUS.

MALIGNITAS. Malignity. *Sydenham* is of Opinion, that the Symptoms excited by a preposterous Method of Treatment, are frequently ascribed to Malignity, of which he thus delivers his Opinion.

I conceive that all the Malignity, which appears in Epidemics, whatever its specific Nature be, consists and centers in very hot and spirituous Particles, that are more or less opposite to the Nature of the Juices contained in the Body; because only such Particles are capable of producing so sudden an Alteration of the Juices, as is frequently observed in malignant Diseases. And I judge that these hot and spirituous Particles, chiefly act by way of Assimilation; for, by the Law of Nature, every Principle endeavours to produce its Like, and to reduce and mould whatever opposes it to its own Nature. Thus Fire generates Fire, and a Person seized with a malignant Disease, infects another by an Emission of Spirits, which soon assimilate the Juices to themselves, and change them into their own Nature.

From these Considerations, it seems to follow, that it is best to expel these Particles by Sweat, since by this Procedure the Disease would be immediately eradicated. But Experience contradicts this, and shews that every Species of Malignity will not admit of this Remedy. For tho' in the Plague, the pestilential Particles, as well on account of their exceeding Subtility, as likewise, because they reside in the most spirituous Parts of the Blood, are dissipable, and may be expelled by an uninterrupted Sweat; yet in other Fevers, where the assimilating Particles are less subtil, and mixed with grosser Humours, the malignant Humour can, not only not be expelled by Sweat; but is frequently increased by the Diaphoretics given to promote it. For the more active those hot and spirituous Particles are rendered by the use of heating Medicines, the more is their power of assimilating increased; and the more likewise those Juices are heated, whereon they act, so much the more readily are they assimilated, and yield to the Impressions thereof. Whereas, contrariwise, it is reasonable to think, that Medicines of an opposite Nature, do not only restrain the Action of the hot and acid Particles; but likewise thicken and strengthen the Juices, so as to enable them to undergo, or even to conquer, the Force of the Morbific Spirits. And here I may appeal to Experience, which has taught me, that the Purple Spoils in Fevers, and the black Eruptions of the Small-Pox, increase more readily in Proportion as the Patient is heated; and that, according to the Coolness of the Regimen employ'd, which is very suitable in these Diseases, they are used to decrease and be diminished.

Now, were it to be inquired, whence it happens, since Malignity consists in such hot and spirituous Particles, that so few Signs of a Fever, are frequently found in the most malignant Disease; it might be answered, that in the Plague, the most remarkable Instance of Malignity, the morbid Particles are so very subtil, especially in the Beginning, that they pass through the Blood like Lightning, and (the Spirits being as it were fixed and congealed) raise no Ebullition therein: Whence the Patient dies without a Fever.

But in other Epidemics, accompanied with a less Degree of Malignity, the febrile Symptoms are sometimes so slight, from the Disturbance raised in the Blood by the morbid Particles contained in the Mass, that Nature, being in a manner oppressed, is rendered unable to produce the more regular Symptoms, that are suitable to the Disease; and almost all the Phenomena that happen, are irregular, by reason of the entire Subversion of the animal Oeconomy; in which Case the Fever is often depressed, which of its own Nature, would be very high. Sometimes, also, fewer Signs of a Fever appear, than the Nature of the Disease requires, from the Translation of the malignant Cause, either to the nervous System, to some of the solid Parts, or to some of the Juices lying out of the Road of the Circulation, while the morbid Matter is yet turgid.

But which way soever it may be, I am not able even to conjecture, what other Method of Cure ought to be used to conquer the Malignity, besides, that which is suitable to the Epidemic, wherewith it is joined: So that whether the Epidemic be of the same Nature with those, wherein the febrile Matter is first concocted, and then properly expelled by Sweat;

of the Nature of those that are terminated by some Eruption; or of those that require the Assistance of Art, to make way for them; in all these Kinds, the Malignity, which is the Concomitant of the Disease, will rise and sink, remain and go off, with the original Disease; and consequently, whatever Evacuation agrees in general with the Fever, agrees likewise with the Malignity, how much soever these Evacuations may be of a contrary Nature to each other. Hence the Malignity, that accompanies autumnal Intermittents, and also the continued Fever, which is of the same Nature, will yield to a Sweat, which follows Concoction as its Effect. And the seasonable Suppuration of the Pustules in the Small-Pox, will take off the Malignity attending that Disease, and so of the rest: In all which the peculiar Species of Malignity is best overcome by those Methods, which prove most successful in the Cure of those Diseases whereto it belongs, whether by this, or any other Procedure. This appears evident to me, from Reason, and it is likewise universally confirmed by Experience.

MALINATHALIA, a Name in *Blancard* for the *Cyperus*.

MALLAM TODDALI. H. M. *Baccifera Indica racemosa, Florum Staminiulis binis, Acinis monopyrenis*. A Tree of a moderate Bigness, growing in *Malabar*, whose Root, Bark, Leaves, and Fruit, are esteemed a specific Remedy against the Epilepsy, Phrensy, and the like Distempers of the Brain. *Raii H. P.*

MALLEABILITAS is defin'd by the Spagirists, to be that natural or artificial Disposition of Metals, which renders them tractable or ductile under the Hammer, in Opposition to Brittleness, or Friability.

MALLEAMOTHE, seu *Pavetta*, H. M. *Pavate*. Park. *Acoftæ Pavate Arbor Foliis Mali Aureæ*. J. B. *Arbor Malabaricus Fructu Lentisci*. C. B. It is a low Tree, or rather Shrub, three Feet high, but, according to *Acofta*, eight or nine Feet, growing in *Malabar*.

Of the Roots are made Hafts for Knives, the Leaves serve to dress the Ground, and, being fry'd in Oil of Palm, furnish a Liniment for removing the *Impetigo*, and drying the Pustules of the Small-Pox: A Decoction of the same, in common Water, is used as a Fomentation, to mitigate the Pains of the Hemorrhoids. The Root pulverized with Ginger and Saffron, and exhibited in an Infusion of Rice, cures the Dropsy, by powerfully promoting a Discharge of superfluous Serositities, by the urinary Passages. *Acofta* commends the Shrub principally for two Effects; first, against Fluxes of the Belly, for which Purpose, however, it is of less Efficacy, than many other Medicines; secondly, for curing all kinds of Erythelmas, especially such as proceed from mere Bile. They macerate the whole Root or Trunk, bruised in a Decoction of Rice; and suffer them to remain there for some Hours, that the Water may contract an Acidity; after which they anoint the Erythelmas therewith, and order the Patient to drink a sufficient Quantity of the same twice a Day, the Stomach being first purged. They give the same Water to those who labour under an Inflammation of the Liver, and the burning Heat of a Fever; and use it mix'd with a small Quantity of the Juice of the Leaves of Tamarind, to anoint the Lips of the Wounds, in order to prevent an Inflammation. *Raii H. P.*

MALLEOLUS, *πέρλας*, by some is inaccurately taken for the same as *Talus*, *σφυρα*, the Anklebone, where it means the interior Extremities of the Tibia and Fibula. *Galen de Offibus, Cap. 22.* See CRUS.

MALLEUS, *σφυρα*, a Surgeon's Instrument called the *Mallet*; also a Bone in the Ear, for which see *AURIS*.

MALPIGHIA.

The Characters are;

The Calyx is small, monophyllous, quinquefid, with bifid Segments. The Flower is rosaceous, pentapetalous, with the Stamina growing together, in form of a Tube. The Ovary, which is seated in the Bottom of the Calyx, becomes a carnos, globular, soft, uncapfular Fruit, containin three winged Stones, each fill'd with Kernels.

Boerhaave mentions but one Sort of this Plant; which is,

Malpighia; *Mali Punici facie*. *Plan. N. G. A. 46.* *Cerasus Americana, Myrti foliis conjugatis, fructu acerbo, tetrapyreno*. Pluk. Ph. 158. 4. *Cerasus Jamalensis, fructu tetrapyreno*. H. A. 1. 145. H. Prægn. *Boerb. Ind. alt. Plant. Vol. 2. p. 244.*

There are no medicinal Virtues ascribed to it.

MALTA, *βύνη*. Malt. See BYNE.

MALTHA, *μάλθη*, signifies Wax, especially the softer kind thereof, *Galen*.

MALTHACODES, *μαλθακώδης*, softening, is an Epithet of mollient topical Remedies prepared with Oil, and mention'd by *Hippocrates, Lib. de Ulcer.* They are forbidden to be used in Ulcers by *Galen, Lib. 4. de C. M. D. G. Cap. 1. ad Fin.*

MALTHACOS, *μαλθακός*, the same as *MALACOS*; which see. *Cælius Aurelianus*, among the Number of Diseases reckons that infamous and detestable Disposition of those, whom the Greeks called *μαλθακοί*, (*Malthaci*) and the Latins *Molles* and *Subacti*, and whom he opposes to the Women called *Tribades*. And tho' he acknowledges, that those abominable Inclinations were rather Vices or Diseases of the Mind, than the Body,

and the Fruits of a Corruption of Manners, he was yet of Opinion, that the Birth of those unhappy Persons, or the Manner in which they had been conceived, contributed something towards it; and he entertains us, with the Conjectures of the Philosopher *Parmenides*, on that Subject. The Poets also speak of those enormous Vices, as if they were Diseases: Thus

Hispo subit juvenes, & Morbo pallet utroque: Juvenal.

Campanum in Morbum, in Faciem permulta jocatus. Hor.

MALTHACTICOS *μαλθακτικός*, the same as *MALACTICOS*.

MALTHAXIS, *μάλθαξις*, the same as *Malaxis*, an Emollient.

MALTHEORUM, Sal Gem. *Rulandus*.

MALTHODES, *μαλθώδης*. Emollient.

MALVA.

The Characters are;

The Root is fibrous; the Leaves are somewhat jagged and round, or angulous; and more or less hairy. The first Calyx, at the End of the Pedicle, is monophyllous, multifid, and contains a second Calyx, which is larger (the former, or exterior one, is shorter, and often triphyllous, and the interior quinquefid). The Flower is monopetalous, Bell-shaped, expanded, pentapetaloid, and cut almost to the Unguis. The Unguis of the Flower, being raised, supplies the ascending Tube of the Ovary with an external Covering, and surrounds it on the Outside. This Involucrum, or Covering, produces on every side Male Stamina, which bear the Testiculi, in such a manner as to make them appear growing on all Sides to the pyramidal Tube. In the Centre of the Calyx is seated the Placenta, whence proceeds a long Tube, concealed within the staminiferous Tube before described, and producing from its Apex a multitude of Tubes, opening into the very Centre of the Male Stamina. To the Placenta grow little Pods round about, and compacted into the Form of a Cheese. These Pods, for the most part, contain Multitudes of Seeds, placed one upon another in an orderly Series, and often Kidney-shaped.

Boerhaave mentions fifteen Species of this Plant; which are,

1. *Malva*; *arvensis*; erecta; lucida; flore majore. T. 95.

2. *Malva*; *vulgaris*; flore minore; folio rotundo. F. B. 2. 949. *Tourn. Inst. 95. Boerb. Ind. A. 267. Malva minor*. Offic. *Malva sylvestris minor*. Theat. 299. *Raii Hist. 1. 599. Synop. 3. 251. Malva sylvestris pumila*. Ger. 785. Emac. 930. *Malva sylvestris folio rotundo*. C. B. P. 314. SMALL WILD or DWARF MALLOW.

It flowers in *June*, and the Leaves are in Use, which agree in Virtues with those of the sixth Species, or the common Mallow. *Dale*.

3. *Malva*; *procerior*; flore minore. Flor. 2. 10.

4. *Malva*; *Syriaca*; pumila; flosculis albidis, cauliculis adhaerescens. Bob.

5. *Malva*; *Sinensis*; erecta; flosculis albis, minimis.

6. *Malva*; *vulgaris*; flore majore; folio sinuato. F. B. 2. 949. *Tourn. Inst. 95. Boerb. Ind. A. 268. Malva*. Offic. *Malva vulgaris*, Park. Theat. 299. *Raii Hist. 1. 599. Synop. 3. 251. Malva sylvestris*, Ger. 785. Emac. 930. *Malva sylvestris folio sinuato*. C. B. P. 314. COMMON MALLOWS.

The common Mallow has a thick whitish Root, running down deep into the Ground, with several Branches and Fibres. The lower Leaves have very long hairy Foot-stalks, being of a round Form, but divided into five blunt indented Sections; the Stalk is large, two or three Feet high, somewhat hairy, beset with Leaves, which are less round, and having the indented Sections more conspicuous; the Flowers grow among these, several together, being large and monopetalous, but cut into five Segments, of a bright-red Colour, with a pretty many deep-coloured Veins interspersed; they grow in a double Calyx, the outer consisting of three, and the inner of five Parts. The Seeds, as they lie together, are flatish and round, representing a Cheese. It grows every where by the Way-sides, and flowers in *May* and *June*. The Leaves, Flowers, Root, and Seed are used.

Mallows is one of the five emollient Herbs, being loosening, cooling, and mollifying. A Decoction of the Leaves is good to keep the Body soluble, to assuage cholerick Humours, and to allay the Heat and Sharpness of Urine, sweetened with Syrup of Violets, and drank now and then to the Quantity of a Quarter of a Pint. It likewise provokes Urine, and is good for the Stone and Gravel; and where Marshmallows are not to be had, this may very well supply its Place. A Cataplasim of the Leaves, applied to the Place stung by Bees or Wasps, cures the Smart.

Official Preparations are only a Conserve of the Tops. *Miller's Bot. Offic.*

From the *Analysis* of the common Mallow, its manner of acting may be discovered. From five Pounds of the Leaves and Roots, are obtained four Pounds of Phlegm, two Ounces of urinous Liquor, about forty-eight Grains of concrete urinous Salt; four Ounces of Oil, partly fluid, and partly thick; six Drams of fixed Salt, and an Ounce of Earth. Whence it appears, that this Plant contains an ammoniacal Salt, joined with Earth;

Earth; and that the large Quantity of Oil is, by its Union with the acid Phlegm, converted into a Mucilage; which, tho' it be destroy'd by the Fire, is, in the Plant itself, the Cause of its emollient and lenient Effects. Oil, long beat up with Water, and fine Earth, turns to a Mucilage; especially if a small Quantity of any acid Spirit be thrown into the Mixture. The Juice of this Plant, taken either inwardly, or by Clyster, is laxative; both as it moistens and softens the hard Excrements, and as it relaxes the Fibres of the Intestines, dried by Heat, and so become too tense and rigid for their natural Actions. *Geoffry*.

The Mallow is used outwardly in Cataplasms for maturing Tumors, and mitigating Pains; and inwardly in Clysters for mollifying the Belly, and easing nephritic Pains. The Viscidity of its Juice renders it a proper Remedy, in a Syrup or Conserve, for the Pain of the Stone; and the small Degree of Heat with which it is endu'd, qualifies it, when fry'd in Butter, as a Medicine against the Colic, in Infants. Of this, says *C. Hoffman de Medic. Offic.* I have had Experience in my own Children; *S. Pauli* writes the same. Three Ounces of the Decoction, or distilled Water, of the Leaves of Mallows, with half an Ounce of Syrup of Violets, mitigates the Heat and Acrimony of Urine immediately at the first Dose. *Grulungius*, in his *Praxis*, says, that he knew not a more present Remedy under that Distemper, to whose Opinion, says *Dr. Hulse*, I can subscribe from my own Experience. For a Dysury take a Decoction of Mallows with Violets. With this Medicine, *Forestus* says, he cured himself of that Distemper. *Raii H. P. p. 599.*

7. Malva; sylvestris; folio sinuato; flore albo. *Sutherland*.

8. Malva; sylvestris; folio sinuato; flore pallide rubello, venis purpurascens, picto.

9. Malva; rotundifolia; Italica; flore amplo, purpurascens. *T. 96.*

10. Malva; orientalis; erectior; flore incano suaverubente. *T. Cor. 2.*

11. Malva; folio vario. *C. B. P. 315. Prodr. 137.*

12. Malva; humifusa; minima. *Sher.*

13. Malva; foliis crispis. *C. B. P. 315. Tourn. Inst. 95. Boerb. Ind. A. 268. Malva crispata. Offic. J. B. 2. 952. Ger. 785. Emac. 831. Park. Parad. 495. Raii Hist. 1. 597.*

FRENCH MALLOW. It is cultivated in Gardens, and flowers in June; as to its Virtues, it agrees with the other Mallows. *Dale*.

14. Malva; sylvestris; foliis sinuatis minoribus; flosculis minimis Anglica. *Rand.*

15. Malva; Americana; ulmifolia; floribus conglobatis ad foliorum alas. *Plum. T. 95. Boer. Ind. alt. Plant. Vol. 1. p. 267.*

The Name *Malva* is from the Greeks *μαλάχη*, of *μαλασσω*, to mollify. The Roots, Leaves, Stalks, Flowers, and Seeds, consist of a mucilaginous Substance, which is very mollifying. The Antients reckon'd it among esculent Plants, as appears from a noted Verse of *Hesiod*. The Herb is a proper Remedy, first, where excessive Acrimony requires Demulcents; secondly, where too great a Stricture requires Relaxation; thirdly, where Pains are to be mitigated; fourthly, under an excessive Glutinosity. Hence it is effectual for dry and rigid Fibres; for rendering the hard Intestines lubricous; and for the Vertigo in those who labour under hypochondriacal Disorders. The Surgeons also make great use of this Plant, and there is scarce a Cataplastm design'd for maturing, but has Mallows for an Ingredient: It is of Efficacy in Affections of the Lungs and Intestines, a Phthisis, Hoarseness, and Cough. The Flowers are good for Inflammations of the Gums and Uvula; a Cataplastm of the Herb is commended for the Erysipelas, and an Infusion of the Leaves after the manner of Tea cures an inveterate Heat of Urine. *Hist. Plant. ascript. Boerhaav.*

MALVA is also a Name for the ALCEA and ALTHEA; which see.

MALVA, BETONICÆ FOLIO. A Name for the *Malacoides*; *Betonica folio*.

MALVA ROSEA.

The Characters are;

The Flower is fully expanded, larger than that of the common Mallow, closely adhering to the Stalk, and in full-grown Plants bearing copious Petals, instead of a Style, as in the common Mallow: In short, all things are larger, rougher, and more thubby, in this Plant than in the other.

Boerhaave mentions thirteen Species of this Plant, none of which have any medicinal Virtues ascrib'd to them, except the first which is.

Malva; rosea; folio subrotundo. *C. B. P. 315. Tourn. Inst. 94. Boerb. Ind. A. 269. Malva arborea. Offic. Malva hortensis. Ger. 782. Emac. 928. Malva rosea. Offic. Malva rosea five hortensis. J. B. 2. 951. Raii Hist. 1. 600. Malva hortensis rosea. Park. Parad. 369. HOLLYHOCKS.*

This is a large tall Plant, six or seven Feet high, with thick round Stalks, and very large hairy round Leaves, a great deal bigger than the common Mallow, but much of its Shape; the Flowers grow upon the Stalk, coming forth with the Leaves, being very large, of one Leaf cut into five Segments, of a pale red Colour, having a spiked Umbo in the middle, full of dusty

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Apices. The Roots are white, large, and branched. It grows only in Gardens, flowering in July and August.

This Species of Mallows is much of the Nature of the common Mallow, but less mollifying: It is mostly used in Gargles, for the Swelling of the Tonsils, and the Relaxation of the Uvula; but it is not often met with in Prescriptions. *Miller's Bot. Off.*

Hollyhocks have the same Virtues with the common Mallow. The Flowers boiled in old Wine cure the Scurf; they are also used for the Erysipelas, especially the red, or what appears like a Rose, in Conformity to the Colour. I use the Decoction of the Flowers, says *J. Baubine*, with good Success, in Heat and Dryness of the Tongue and Fauces. Take of the Roots and Seeds of this Plant, each an equal and sufficient Quantity; and boil them in Water with Barley-meal, and mix therewith Oil of Olive or Oil of Roses, and make the Whole into a Plaister, which is very proper to be apply'd to Tumors of the Liver, Spleen, and Matrix, as being qualified for resolving, discussing, and mollifying hot Abscesses. The same Plaister is effectual in the Erysipelas, and other Inflammations of that kind, and extracts Splinters fixed in the Body. *Tragus*. This Plaister, says *Dr. Tancrèd Robinson*, is of frequent Use in the Hospitals of Italy, for mitigating and restraining Inflammations, and violent hot Tumors. I have known, says *Ray*, a simple Ointment prepared of the Leaves of the *Malva Hortensis*, boiled in unsalted May-butter and strained, apply'd to an Erysipelas, and *Ignes sacri*, with extraordinary Success, so as very rarely to fail of a perfect Cure after the second or third Inunction. *Raii H. P. p. 600.*

It is called *Malva rosea*, because its Flowers resemble expanded Roses; the Flowers are emollient and moistening, and are proper in Hæmorrhages, Dryness and Heat of the Fauces, and the Erysipelas.

Besides all the foregoing Species of *Malva*, *Dale* mentions the following; which is the

Malva arborea maritima. Offic. Malva arborea marina nostras. Park. Theat. 301. Raii Hist. 1. 601. Synop. 252. Althæa arborea maritima Gallica. Tourn. Inst. 97. SEA MALLOW-TREE.

It is common in Gardens, flowers in June, and the Leaves are in Use, which agree in Virtues with those of the other Mallows.

MALVASIA, *Malmsey*, a generous sort of Wine, prepared after the ancient manner, of Grapes left to wither in the Sun, or dry'd by twisting the Pedicles, and taking off the Leaves, or by placing them upon suspended Hurdles, and sprinkling them, for seven Days together, with a very thin sort of Lime or Gypsum. Others call this Wine *Malvisum*, and *Marvisum*, and suppose it to be the *Arvisum* of the Island of *Scio*.

MALVAVISCUM, a Name in *Blancard* for the ALTHÆA.

MALUM, an ambiguous Term, signifying an Apple, and a Disease. *Malum mortuum* is a very malignant Species of Lepa or Scabies, so called, because it renders the Body black and livid, and, as it were, mortify'd with black, foul, crusty Ulcers, void of Sanies, Sense, or Pain, especially in the Hips and Legs, proceeding from a very high Corruption of the Blood, and nutritious Juices. *Malum*, in a strict Sense, signifies the Disease called the *Procidencia Oculi*, when the Eye exceeds the Bounds of the Eyelids.

MALUS.

The Characters are;

The End of the Pedicle becomes an Ovary, whose superior Margin is expanded into a Crown, like a monophyllous Calyx, which untolds itself into five large expanded Segments. The Flower is rosaceous, pentapetalous, growing on the Ovary within the Crown, with its Petals proceeding from the Interstices of the Segments, and furnished with many Stamina, which arise from the internal Circumference of the Calyx. When the Ovary is increased, the Petals fallen off, and the Stamina vanished, the five long Tubes, produced from the Centre of the Ovary, also wither; the Calyx is contracted, and passes into an umbilicated quinquecapsular, carnosus Fruit, called an Apple.

Boerhaave mentions two Species of this Plant; which are,

1. Malus; flore pleno. *C. B. P. 433. Poma flore multiplici. H. Eyst. o. 1. F. 5. Fig. 1.*

2. Malus; five Pomum. *C. B. P. 433. Boerb. Ind. A. 2. 249. Malus. Offic. J. B. 1. 1. Tourn. Inst. 634. Ger. 1272. Emac. 1459. Malus sativa. Raii Hist. 2. 1445. Synop. 3. 451. Malus vulgaris. Park. Theat. 1502. THE APPLE-TREE.*

This is a Tree so well known, that it would be superfluous to give any Description of it. Among the numerous Variety of Apples, those which are accounted best for medicinal Use, are the Pearmain and Pippin, being the Poma fragrantia of the Shops, yielding a pleasant vinous Juice, with a little Sharpness.

They are cordial, comforting the Heart, cheering the Spirits, and driving away Melancholy; and are very grateful and strengthening to the Stomach. Of the Juice of these are made Syrup of Apples; and it is an Ingredient in the Confectio Alkermes. *Gerard* says, that the Pulp of four or five roasted Apples, mixed well with a Quart of fair Water, and all drank within the Space of an Hour, is a most certain Relief for a Stoppage of Urine,

M A L

or Strangury; as also for a Gonorrhœa, and Heat of Urine. The Ointment called *Pomatum* ought to be made of a large green juicy Apple, called a *Pomewater*; but the *Pomatum* now in Use is made after another Manner. *Miller's Bot. Off.*

Malum, with the first Syllable long, comes from the *Doric* and *Æolic* *μᾶλον*; for *μᾶλον*, which signifies not only a Sheep and a Breast, but also a kind of Apple. The Tree is called *Malus*, in *Greek* *μᾶλα*. *Vossius*.

The Word *Pomum* has a larger Signification than *Malum*; for *foam*; under the former, comprehend, also, the *Nux*, or *Nut*, which the *Greeks* call *ἀκρόδρυον* (*Acrodryon*). Some distinguish the *Nux* from the *Pomum*, in that the latter has all its eatable Part on the Outside, inclosing what is hard; whereas the *Nux*, on the contrary, includes what is esculent within a hard Shell; but the Genus is commonly taken for the Species. *Julus Scaliger* thinks the Word *Pomum* derived from *πίμα*, or rather *πῶμα*, which latter we, also, meet with [*πίμα*, or *πῶμα* (*Poma*) from *πῖω* (*Pino*) to drink]; because *Poma* (Apples) remove a Thirst, and are both Meat and Drink at once.

The *Malus* is a Tree, so well known in all Parts of *Europe*, as to need no Description. Of the *Malum* I acknowledge but one Species; for what are commonly taken for Species, are only Varieties, differing from one another by some Accidents, as Size, Figure, Colour, Taste, and Time of Maturity. Now I think these Varieties make no Difference of Species, because they owe their Original to Sowing, and are infinite without any certain or determinate Number, since new ones continually arise from sowing the Seed. Both the *Baubines* assert the Variety of Apples to proceed chiefly from the Variety of Infusion; but we think it is to be ascribed to the Seed sown, since, in Infusions, the Fruit almost perpetually follows the Nature of the Grass, or Bud: We grant, however, that the Fruit may be improved by Infusion, in the Alteration of its Juice from tart and acid, to mild and pleasant.

The Virtues of Apples are various, according to their different Tastes; the acid, harsh, and austere, are astringent, and therefore bind the Belly; but, boiled with Butter, are a proper Food in several Disorders, according to *Schroder*. Sweet Apples are of an hotter Nature, and have a loosening Quality: The fourth, or vinous, are of a mix'd Nature, and agreeable to the Stomach and Heart. *J. Baubine* approves the Judgment of *Aristotle*, that Apples should be eaten before Food; for, in that Case, says he, they are very easy of Passage, and loosen the Belly; but, taken after Food, they only generate Inflammations, and disturb the Stomach, as we know, he says, by Experience. We find, says *Ray*, upon Trial, that the most convenient Time for eating of Apples is not in the Morning before Dinner, upon an empty Stomach, because of Crudities and Acidity; nor before Supper, for the same Reason. Neither are Apples proper to be eaten immediately after Dinner or Supper; but two, three, or four Hours after either Meal, when the Stomach is not wholly exhausted, nor too full. Apples are indeed fungous and spongy, so as to swim in Water, whereas Pears sink therein; whence Apples are difficult of Concoction. Pears, whether crude or depressed, agree better with me, says *J. Baubine*, and are more easily digested, than Apples. Tho' Apples may, perhaps, be hurtful to a cold and humid Stomach, they are, however, very agreeable to a hot and bilious one, and render the Body soluble. Almost all Apples have a Property in common; that, if their expressed Juice be drank with a little Saffron, it becomes an Antidote against Poisons, and expels Worms, or other Animals, from the Belly. For pungent Pains in the Sides *Camerarius* advises a Cataplasm prepared of a sweet Apple roasted with some pounded Frankincense in it. The same Author, for an Ambushion by Gunpowder, prescribes boiling a sweet Apple in Water of the broad-leaved Plantane till it be exhausted; and then making it with Milk into a Cataplasm, to be applied to the Wound.

There is a Medicine, which very often comes in our Practice, and which we highly value; it is prepared of Apples boiled in Water, and applied in form of a Poulrice to an Inflammation of the Eye. The Apples may, also, be boiled in Milk of Goats or Women, or in Rose-water, Water of Eyebright, or any other cooling Water; but I have frequently tried this Medicine without Milk, and with good Success. *J. Baubine*. It is common, in our Country, to apply a putrid Apple to all Sorts of Tumors and Inflammations of the Eyes. We have a memorable Experiment to this Purpose related by *Simon Paulus*. I remember, says he, that a Gentlewoman of a very good Family once told me, that she was cured of a Gangrene in her Thigh, by following the Advice of a certain Lichotomist of *Stralsund*, in applying to the Part a Cataplasm of putrid Apples bruised, and boiled without an Addition of any Liquor; and that the Cure was completed by two Applications. *Gesner*, with good Success, advised eating a roasted Apple hollowed, and filled with a Dram of Frankincense for a Dyspnoea, and other Disorders of the Lungs. *Raii H. P.*

MALUS { ARMENIACA, } See { ARMENIACA MALUS.
AURANTIA, }
CYDONIA, }
LIMONIA, }
MEDICA, }

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MALUS { PERSICA, } See { PERSICA.
PUNICA, }
SYLVESTRIS, }
AGRIOMELA.

MAMANGA *Frutex*. Pison. An arborecent Shrub in *Brasil*, called by the *Portuguese* *LAVAPRATAS*. The Leaves are like those of the Citron-tree, but somewhat longer and softer, and used by the Surgeons in the Cure of Wounds and Ulcers. The expressed only Juice of the Pods is reserved for the Maturation of Abscesses. *Raii Index*.

MAMAY *Arbor*. Park. The same as MAMMI; which see.

MAMBU, a Name for the *Arundo Tabaxifera*.

MAMEI. The Mammæ, Momin, or Toddy-tree. A very beautiful Tree in the *West-Indies*, tall and green, like a large Walnut-tree, with a lofty and broad Top, but somewhat pyramidal, like the Cypress. The Fruit is the sweetest that grows on the Island of *Hispaniola*, sometimes perfectly, sometimes imperfectly round, and of the Bigness of two Fists. From Incisions made in the Branches of this Tree distils a copious pellucid Liquor, which the Natives receive in Gourds hung under the Wound. They call this Liquor *Momin* or *Toddy* Wine, but it must be drank sparingly, and not above a Glass at a time; for it is an extraordinary Diuretic, easily penetrates and incides, and is an effectual Preservative against the Stone, as well as Dissolvent of it when generated. There are two Species of this Tree, which are distinguished by the different Size of their Fruit. *Raii H. P.* 1665.

MAMIRA. The Name of an Ingredient in what *Myrepsus*, and others of the Antients, call the Antidote of the Doctor and Prophet *Esfiras*. *Aëtianus*, according to the Version of *Ruellius*, reads the Word *Mamira*. *Mamiras*, or *Mamira*, is described by *P. Ægineta*, *Lib. 7.* to be a small Root of an Herb, very full of Knots and Joints, and supposed to be effectual in attenuating Cicatrices and Albugines in the Eye, because it is endued with a deterfive Virtue. This Description of *Paulus* seems to agree to the Root, now called in the Shops *Doronium*; for this is a slender Root, distinguished by very frequent Nodes or Extuberances, like Joints. If the Palate be consulted, it has a sweet Taste, which is immediately succeeded by a slight and transient Bitterness: Hence it is manifest by the Taste, that it is of Service for extirgishing Cicatrices and Albugines. *Aëtius* and *Paulus*, in their Description of the Antidote of *Esfiras*, make no mention of the *Mamira*. *Fuchsius Not. in Myreps. Antid* 138.

MAMMÆ. The Breasts.

The Name of *Mammæ*, or Breasts, is given to two Eminences, more or less round, situated in the anterior, and a little toward the lateral Parts of the Thorax; their Centre, or middle Part, lying almost opposite to the bony Extremity of the sixth true Rib on each Side. Their Size and Figure vary in the different Sexes, and different Ages.

In Children of both Sexes, and in Males of all Ages, they are commonly no more than cutaneous Tubercles, or soft Verrucæ of a redish Colour, called *Papillæ*, or Nipples; each of them being surrounded by a small, thin, and pretty broad Circle or Disk, more or less of a brownish Colour, and an uneven Surface, termed *Areola*.

In Females, come to the Age of Puberty, which is sometimes sooner, sometimes later, a third Part is joined to the two former, which is a convex Protuberance, more or less round, of about five or six Fingers in Breadth; the *Papilla* and *Areola* being situated near the middle of the convex Surface. This is what is properly termed *Mamma*, and it may be termed the Body of the Breast, when compared with the other two Parts. It increases with Age, and is very large in Women with Child, and in those that give Suck. In old Age it decreases and becomes flabby, losing its natural Consistence and Solidity.

The Body of the *Mammæ* is partly glandular, and partly made up of Fat; or it is a glandular Substance, mixed with Portions of the *Membrana Adiposa*, the cellulous Pellicles of which support a great many Blood-vessels, Lymphatics, and serous or lactiferous Ducts, together with small glandular Molecule, which depend on the former; all of them being closely surrounded by two Membranes, continued from the Pellicule.

The innermost of these two Membranes, which is, in a manner, the Basis of the Body of the *Mamma*, is thick, and almost flat, adhering to the *Musculus Pectoralis major*. The second or external Membrane is thinner, forming a particular Integument for the Body of the *Mamma*, more or less convex, and adhering closely to the Skin.

The Corpus Adiposum of the *Mamma* in particular is a spongy Cluster, more or less interlarded with Fat, or a Collection of membranous Pellicule, which, by the particular Disposition of their outer Sides, form a kind of Membrane in Shape of a Bag, in which all the rest of the Corpus Adiposum is contained. The anterior or outer Portion of this Bag, or that which touches the Skin, is very thin; but that Side next the *Pectoralis major* is thick.

DUCTUS LACTIFERI.

The glandular Body contains a white Mass, which is merely a Collection of membranous Ducts, narrow at their Orifices, and in the middle, and which contract again as they approach the *Papillæ*,

Papillæ, near which they form a kind of Circle of Communication. They are named Ductus Lactiferi.

AREOLA.

The coloured Circle, or Disk, already mentioned, is formed by the Skin; the inner Surface of which sustains a great Number of small glandular Moleculæ, of that kind which *Morgagni* calls *Glandulæ Sebaceæ*. They appear very plainly all over the *Areola*, even on the Outside, where they form little flat Heights or Eminences, at different Distances, quite round the Circle.

These Tubercles are perforated by small Holes, through which a kind of sebaceous or cheesy Matter, more or less liquid, may be squeezed out. Sometimes this is a serous Liquor, sometimes a milky Serum, and sometimes pure Milk, especially in Nurses; and I have seen both serous and milky Drops come out at the same time.

From thence I am inclined to think, that these Holes communicate with the lactiferous Ducts, and that the Tubercles are a kind of auxiliary Papillæ added to the true ones. The different Matters, or Liquors, that may be squeezed from the same glandular Body, give, also, room to think, that the Holes in them communicate by their Extremities with several other smaller Holes.

PAPILLA.

The Tubercle, which lies in the Centre of the *Areola*, is term'd *Papilla*, or the Nipple: It is of different Sizes in different Ages and Constitutions, and in the different Conditions of Females in particular. In Women with Child, or who give Suck, it is pretty large, and generally longer and higher than it is thick or broad; and, when it happens to be short, it causes great Uneasiness to the Child.

The Texture of the Nipple is spongy, elastic, and liable to divers Changes of Consistence, being sometimes harder, sometimes more flaccid: It seems to be made up, principally, of ligamentary Fasciculi, the Extremities of which form the Basis and Apex of the Nipple: These Fasciculi appear to be gently folded or curled, during their whole Length; and if, by drawing the Fibres out, these Folds be destroy'd, they return again as soon as that Action ceases.

Between these spongy and elastic Fasciculi lie seven or eight particular Tubes, at small Distances from each other, and all in the same Direction: These Tubes end at the Basis of the Papilla, in the irregular Circle of Communication of the lactiferous Ducts, and at the Apex, in the same Number of almost imperceptible Holes or Orifices; and, as they are closely united to the elastic Fasciculi, they are folded in the same manner with them.

The Body of the Papilla is cover'd by a thin cutaneous Production, and by the Epidermis; its outer Surface is uneven, being full of small Tubercles and Wrinkles; among which those near the Circumference of the Nipple seem to have a transverse or annular Disposition, which, however, is not uniform.

This Disposition or Direction seems to be owing to the elastic Folds already mentioned; and, from this simple Structure, it is easy to explain how Infants in sucking the Nipple, and Women in drawing the Teats of Cows, bring out the Milk: For the excretory Tubes, being wrinkled in the same manner as the Fasciculi, do, by these Wrinkles or Folds, as by so many Valves, hinder the Milk contained in the Ducts from flowing out; but when the Nipple is drawn and elongated, the Tubes lose their Folds, and the Passage becomes strait. Besides this, when they are drawn with a considerable Force, the whole Body of the Mamma is increased in Length, and contracted in Breadth, and thereby the Milk is pressed into the open Tubes; and thus, by barely pressing the Body of the Breast, the Milk may be forced toward the Nipple, and even through the Tubes.

The Arteries and Veins distributed through the Mammæ, are Ramifications of the Arteriæ and Venæ Mammariæ; of which one kind comes from the Subclaviæ, and are named *Mammariæ Internæ*; the other from the Axillares, called *Mammariæ Externæ*.

These Vessels communicate with each other, with those near them, and with the Vasa Epigastrica. The Nerves come principally from the Costales, and, by means of these, communicate with the great Nervi Sympathetici.

The Use of the Mammæ in the Nourishment of Children is known to all the World: But it is not certainly known what the Papillæ and Areolæ in Men can be designed for. Milk has been observed in them in Children of both Sexes; and this happen'd to one of my own Brothers, when he was about two Years of Age. *Winslow's Anatomy*.

The Breasts are subject to various Imperfections and Disorders.

Thus some young Women, after being deliver'd of their first Child, have their Nipples so small, and sunk into the Breasts, that the new-born Child cannot take them in its Mouth, in order to obtain the Milk: It may, therefore, be necessary, to procure an older and stronger Child, or an adult Person used to suck, who, by Strength of Suction, may make the Nipple protuberate, and extract the Milk. But if this Experiment cannot be conveniently tried, or proves unsuccessful,

1. Take a Glass, like that represented in *Tab. XLII. Fig. 19*, and apply the larger Part, marked A, like a Cupping-glass, upon the Nipple; and at the Tube B B let it be sucked by the Patient: This Operation must be repeated, till the Nipple is sufficiently extended for the Child.
2. If no such Glass is at hand, a Tobacco-pipe may be used in the same manner.
3. Others apply a small Cucurbit (Cupping-glass) of Ivory or Alabaster, in the Form of an Hat, as in *Fig. 19*, which they suck strongly with their Mouth.

I have, says *Heister*, another sort of Glass, which may be called a Sucking-glass, represented in *Fig. 20*, which being heated in warm Water, or before the Fire, in order to rarefy and expel the Air, and having its Mouth A applied to the Nipple, it will not only be protruded, but the Milk will be extracted, and Inflammations of the Breast will be thereby abated. When the Suction of the Glass diminishes, the Milk may be let out at the Aperture B, which was before closed with Wax. The Glass being again heated, as in Cupping, and the Whole stopped with Wax, the Application may be repeated till the Intention is answer'd.

Lastly, Young Whelps, before they have Teeth, have been successfully used for this Purpose.

FISSURES AND EXULCERATIONS OF THE NIPPLE.

Women in Child-bed, who suckle their own Children, are frequently afflicted with very painful Fissures and Ulcerations in their Breasts: In these Cases, a Mucilage of Quince-seed may be very beneficial; or anoint the Nipples with the Oil of Eggs, mixed with a little of the Oil of Wax; or the Oil of Myrrh per Deliquium may advantageously be used in the same manner; or, lastly, a fine Powder of Gum Tragacanth may be sprinkled on them through a Piece of Mullin. The Child should be suffered to suck as seldom as possible, as the Suction must impede the Cure; and the Shift of the Patient must be carefully kept from adhering to the Nipple, which, after the Child has done Sucking, should be washed with a Solution of a small Quantity of the Sugar of Lead, in Plantane-water, and then covered with a Cap of Ivory, Marble, or white Wax, like that in *Tab. XLII. Fig. 19*.

INFLAMMATIONS OF THE BREAST.

Inflammations of the Breasts frequently happen to Child-bearing Women, and generally a few Days after their Delivery. If the Milk should be impelled into the Breast with too much Force, or in too great a Quantity, which, at such times, is often the Case, and if the Woman should be attacked with a Cold, or have her Mind disturbed by Fear, Anger, or Grief, or drink cold Liquors, the sanguiferous and lactiferous Vessels being by these means obstructed, the Breasts must consequently become tumefied, and be affected with great Heat, Redness, Hardness, and violent Pain. These Tumors sometimes proceed from the same Causes in Women who give Suck, even a considerable Time after their Delivery, and sometimes in those who have no Milk. I have even observed, says *Heister*, the same Case in a Man, which was occasioned by a great Fright; one Breast was prodigiously tumefied, and had degenerated into an Abscess, from which I extracted, at the first Opening, above two Pounds of Matter, to the great Surprise of the Patient and By-standers. This kind of Inflammation is usually accompanied with a Fever, or great Heat over all the Body, with a quick Pulse, Thirst, Head-ach, and difficult Respiration; and it is generally preceded by a Shivering.

Tho' these Inflammations most frequently happen to Women who have been lately deliver'd, and do not suckle the Child, yet they may often arise from the Causes above-mentioned, in those who have left off giving Suck, or from a Blow, Contusion, or other external Injury.

These Inflammations are not always equally violent. Sometimes the whole Breast, sometimes one Side of it, and sometimes but a small Portion of it, is affected: Sometimes the Inflammation is near the Skin, and at other times deeply seated: Sometimes the Symptoms, such as the Redness, Heat, Tension, and Pain, are more intense; and sometimes of a milder Nature.

The smaller the Tumor, and the slighter the Inflammation and Fever, the less is the Danger; because it may then be dispersed, without being brought to a Suppuration: On the contrary, the more violent the Symptoms, the greater is like to be the Suppuration; which sometimes degenerates into a Scirrhus, and a Scirrhus is almost always succeeded by a Cancer.

This Disorder may be easily prevented, in those who will not, or cannot, suckle their Children, by spreading Sperma Ceti Plaister upon Linen, with a Perforation in the Middle, to transmit the Nipple, and applying it warm to the Breast, soon after Delivery, fastening it with a Bandage somewhat tight, in order to prevent the Accession of the Milk. It may, also, be proper

to hang the Galactites, or Milk-stone, or some Quicksilver, in a Nut-shell from the Neck, down the Back of the Patient, and to apply between the Scapulæ a Plaister of Frog-spawn mixed with Sugar of Lead, and Oil of Henbane. The most efficacious internal Medicines are those which promote the Lochia, if their Flux be not already sufficient; such as the Essences of Myrrh, Amber, and Saffron, or the Elixir Proprietatis. The Diet must, at the same time, be very low, till the Afflux of Milk to the Breasts is much diminished; for which Purpose Broths, Tea, and the like thin watry Aliments, should be continued some Days. But, if the Mother is desirous to suckle her own Child, the best Means to prevent an Inflammation of the Breast is to keep free from Colds, and carefully to avoid all violent Affections of the Mind; letting the Child suck often, to prevent the Stagnation of the Milk. The Diet should principally consist of Broths, and thin Fluids, for the first Week, in order to lessen the Quantity of Milk, and hinder its being inspissated in the Vessels: But when a Tumor and Inflammation begin to discover themselves in the Breasts, let Discutients be applied, both externally and internally, without Delay; by which means a Suppuration or Scirrhus may be prevented, which often leave unseemly Cicatrices behind them.

La Motte's Method of treating those Cases, as appears by *Obs.* 134. p. 668. is to endeavour first to resolve the Tumor, by Bleeding, emollient Clysters, and a low Regimen, by Applications of warm Milk and Brandy, and an Ointment of Oil of Roses, Lilies, and Chamomile.

Heister affirms, that the most powerful Discutient which he has experienced on these Occasions, is the Sperma Ceti Plaister. Over the Plaister may be laid a digestive Bag, made warm, and stuffed with Bran and Salt, or with the Flowers of Elder, Chamomile, Melilot, and Lavender; and the Seeds of Fennel, Cumin, and Anise. Some, instead of these Bags, put Lamb-skin over the Plaister, which not only defends the Breast from the external Cold, but is a proper Discutient on these Occasions. Another successful digestive Application for these Tumors, is a Calf's Bladder, filled with a warm Decoction of the Flowers of Elder and Chamomile, which should be often laid to the tumefied Breast, having its Heat renewed when necessary. Of the same Virtue is the Plaister of simple Diachylon, either alone, or mixed with Sperma Ceti. The Rob of Elder, or *Venice Treacle*, mixed with the Salt of Wormwood, being spread upon Linen, and applied warm by way of Liniment, have excellent Effects in dispelling these Tumors, especially if covered with warm digestive Bags: But these Applications are to some disagreeable, as they daub the Skin, Linen, and Bed-clothes. To these we may add Vinegar of Litharge, Vinegar in which Cumin has been boiled, and Lime-water, which may be applied by means of Linen Compresses impregnated with the hot Liquors, and often repeated. Many esteem the Expression of the Milk upon burning Coals, an excellent Remedy; but, however idle and superstitious it may appear, it ought not to be entirely rejected, as it may operate successfully, by strongly influencing the Imagination of a superstitious Woman. If the Breasts are greatly distended with Milk, let it be sucked out by a Child, an old Woman, or a Puppy, or by the Application of the Glass Instrument already described, till the Tumor subsides, and the Pain ceases.

But if the Inflammation will not yield in four or five Days, or if, as is often the Case, the Surgeon is consulted too late, the safest Method is to hasten the Suppuration with all Expedition, rather than hazard its degenerating into a Scirrhus or Cancer by Delay. For this Purpose the Diachylon-plaister, with the Gums, or Plaister of Henbane, should be speedily applied. But the following Cataplasms, or some of those described under the Article Abscessus, for the Maturation of Abscesses, will be more effectual:

Take of Ryemeal, half an Ounce, or an Ounce; of Honey a sufficient Quantity to form a Cataplasm: Then add a small Quantity of Milk and Saffron, and let it be spread warm upon Linen, applied to the Breasts, and often renewed. Or,

Take of Ryemeal, four Ounces; of Galbanum dissolved in the Yolk of an Egg, one Ounce; Vinegar, three Ounces; Water, a sufficient Quantity for boiling these Ingredients into a Cataplasm. Or,

Take of Leaven, two Ounces; Honey, half an Ounce; *Venice Soap* sliced, and Oil of Chamomile, each two Ounces: Let these be mixed together in a Pot, over the Fire, into the Form of a Cataplasm.

These Cataplasms are to be applied hot, and very often, to the Breasts, keeping them on by Linen Compresses, or Bolsters, to retain the Heat, till the Tumor bursts of itself, which it often does from the Thinness of the Skin in this Part; or otherwise it may be conveniently opened by the Knife. If Necessity will permit, the Incision should always be made in the lower Part of

the Breast, to conceal the Cicatrix from View. Some Surgeons use the Cautery in opening these Suppurations; but as they usually leave unseemly Cicatrices, the Knife ought to be preferred.

After the Pus has been discharged, the Treatment must proceed as directed under the Articles Abscessus and Vulnus. Let the Ulcer be first mundified with some digestive Ointment, and then apply some healing Balsam, as that of *Pernu*, with the Oil of Eggs, and of Wax. But when the Suppuration has penetrated deep, inject into the Wound the cleansing Decoction of Sanicle and Ladies-mantle, mixed with Honey of Roses; and, to prevent the Lips of the Wound from closing before the Bottom is incarnated, introduce a soft Tent, or scraped Lint, which, as the new Flesh rises from the Bottom, may be gradually lessened, and at last removed.

Sometimes these Tumors will neither yield to Discussion nor Suppuration, but will continue for Months, and even Years. In young and healthy People, this Sort is not very troublesome, nor is there much Danger of their growing scirrhus or cancerous, or that they should always remain. In such Cases, let the Patient be kept always cheerful, and let the Sperma Ceti Plaister be kept constantly applied to the Tumor, which must be carefully defended from the external Cold. By this Method Tumors of long Duration have gradually diminished, and, at last, disappeared. But in Women advanced in Years, and of a melancholy forrowful Disposition, such inveterate Tumors are subject to degenerate into a Scirrhus, or Cancer. *Heister Chirurg.* See CANCER, and AMPUTATIO.

MAMMARIA VASA. The Mammary Vessels; that is, the Veins and Arteries of the Breasts.

MAMMIFORMES PROCESSUS. The Mammiform or Malleoide Processes of the Temporal Bone. See CAPUT. These Processes are, likewise, called *Mammillares*.

MAMMOERA MAS. A Name for the PAPAYA MAS.

MAMMOERA FOEMINA. A Name for the *Papaya*; *Frustrum Melopeponis effigie*.

MANACA. *Marogr. Pison.* A *Brazilian* bacciferous Shrub, with an umbilicated Fruit, like that of the Juniper; containing three elliptical Seeds, of the Size of Lentils. The Part used in Medicine is the Root, which is great, solid, and whitish; its medullary Substance, reduced to Powder, has very considerable Effects; but because it works too violently, both upwards and downwards, in the same manner as Scammony, or the Esula, it is usually given only to very robust Persons, and then with Correctives, and in a just Dose. It has somewhat of a Bitterness and Acor. The Root, macerated in Water, makes a Fomentation, or Bath, for those who are afflicted with wandering Pains of the Joints, especially such as are contracted by Cold. The Plant is used as a Vulnerary by the *Brazilians*. *Raii Hist. Plant.*

MANATI. *Offic. Schrod.* 5. 327. *Hern.* 323. *Charlt. de Pisc.* 49. *Manati Indorum.* *Aldrov. de Pisc.* 728. *Jonst. de Pisc.* 156. *Rondel. de Pisc.* 1. 490. *Manati Phoca genus.* *Clus. Exot.* 132. *Manati, seu Vacca marina.* *Raii Synop. A.* 193. *Sloan. Jam.* 2. 329. THE SEA-COW.

The Part of this Animal, which is in Use, is the Os Petrosium of the Head, which is crustaceous, white, and like Ivory, of various Forms. It is much recommended for wearing away the Stone in the Kidneys and Bladder, and for easing nephritic and colic Pains. *Schroder.* *Geoffroy* says, that it has the Reputation of preventing an Haemorrhage, if worn about the Neck. *Fred. Hoffman* recommends it in the Epilepsy.

This Animal is said to be very fond of Mankind:

MANBRUX. *Silver. Rulandus.*

MANCANILLA. The Manchineel-tree.

The Characters are;

It has male Flowers, or Catkins, which are produced at remote Distances from the Embryos on the same Tree; the Embryo becomes a round fleshy Fruit, in which is contained a rough woody Nut, inclosing four or five flat Seeds.

Miller mentions three Species of this Tree; which are,

1. Mancanilla Pyri facie. *Plum. Nov. Gen.* 50. THE MANCHINEAL, WITH THE FACE OF A PEAR-TREE.

2. Mancanilla aquefolii foliis. *Plum. Nov. Gen.* 50. THE MANCHINEEL, WITH LEAVES LIKE HOLLY.

3. Mancanilla Lauri foliis oblongis. *Plum. Nov. Gen.* 50. THE MANCHINEEL, WITH OBLONG LAUREL-LEAVES.

The Manchineel, is a Native of the *West Indies*, where it grows on low sandy Ground, or near Gullies where Water runs. The three Sorts here mentioned are distinguished by Botanists; but I believe their Difference is not remarked by the Natives. They grow to be very large Trees equal to the Size of an Oak, and are much esteemed for their Wood, which is sawn out into Planks, and brought over to *England*. It is used for Cabinets, Book-cases, &c. and will polish very well, is of a beautiful Grain, and will last a long time. In cutting down these Trees they are very careful to burn out the Juice of the Bark, before they begin; otherwise they are in Danger of losing their Eyes, by some of the Sap getting into them, which is of a milky Colour, and so very caustic, that it will raise Blisters on the Skin, and burn Holes in Linen. The Fruit of the Tree, when ripe, is of the Colour

and Size of a Golden-pippin, for which many of the *Europeans* have taken it; and some, by eating it, lost their Lives, and others have greatly suffered. The Flesh is not much thicker than a Crown Piece, and not very disagreeable to the Taste, but will corrode the Mouth and the Throat. The Leaves of these Trees abound, also, with a milky Juice, which is of the same Nature, so that it is dangerous being under their Drip. The Cattle in *America* never shelter themselves under them; and scarcely will any Vegetable grow under their Shade; yet the Goats eat this Fruit without any manifest Injury to themselves, or their Milk. *Miller's Bot. Off.*

The Remedy for the Affections, or Disorders, induced by the Juice or Dew of this Tree, which mitigates and represses the Inflammation and Inflations, is a clear Water found within the Shell of a Snail, called the *Soldier*, or the Oil extracted from the same Insect, without the Help of Fire. *Raii Hist. Plant.*

MANCORON. *Oribasius, in Collect. Med. L. 11.* thus describes the Mancoron: It is, says he, a Sort of concentered Honey, contained in Canes, of the Consistence of Salt, found in *Arabia Felix* and *India*, and breaking under the Teeth like Salt. By this Description it should seem to be a Sort of Sugar.

MANCURANA, *μαλκυσγίνα*. Marjoram. *N. Myrepsus, Sect. 1. Cap. 21.*

MANDARU, or THE POD-BEARING MALABARIAN TREE, WITH BIFID LEAVES. This Tree, in *Jacob. Zannoni Hist.* is described under the Name of *Alfistra*, or *Arbor S. Thomæ*. A Branch of this Tree, under the Name of *Arbor S. Thomæ*, was, sent by Dr. Herman to Dr. Syen, from the Island of *Zeylon*, with this Observation, that striated Marks of Blood appeared in the Flowers, from their being sprinkled with the Blood of St. Thomas, who is believed to have preached the Gospel in *Malabar* and *Zeylon*. Ray mentions four Species of this Tree.

The first is the *Chovanna Mandaru prima*. S. M. *Arbor S. Thomæ*. D. Herman. *Arbor siliquosa, Malabarica. foliis bifidis, flore purpurascens striato*. D. Syen.

The Flowers of this Species, boiled with Sugar, are successfully used, instead of Sugar of Roses, as a gentle Purgative.

The second Species is the *Chovanna Mandaru secunda*. H. M. *Arbor siliquosa Malabarica foliis bifidis majoribus, flore intensius purpurascens*.

The Root chewed is good for Pains of the Head and Teeth; bruised with dry Ginger, and applied to the Part, it mitigates the Pain of the Gout. The Vapour of a Decoction of the Leaves eases Pains in the Body, being received by the affected Part. The Flowers simply eaten are purgative; the Bark, Flowers, and Fruit bruised together, and mixed with Water, in which Rice has been macerated, are effectual for maturing and breaking Abscesses.

The third is the *Volutta Mandaru* H. M. *Arbor siliquosa Malab. foliis bifidis minor, flore candido, striato*. D. Syen. It agrees in Virtues with the others.

The last is the *Causchena pou*. H. M. *Arbor siliquosa Malab. foliis bifidis minoribus flore albo flavescens striato*. D. Syen. *Mandaru quarta Species, Flos Divi Thomæ*.

The Right Rev. Dr. Compton, Bishop of *London*, had one of this Species growing in his Garden in the Year 1687. *Raii H. P. p. 1751.*

MAND. BULÆ LUCII PISCIS. These are absorbent, and pass with some for a good Sudorific, being taken in the Quantity of a Dram in Carduus-water. They are by others recommended in Pleuritis. *Geoffroy. See LUCIUS.*

MANDIHOCA. See MANIHOT.

MANDOBI. See ARACHYDNA.

MANDRAGORA.

The Characters are;

The Flower is monopetalous, bell-shaped, and multifid; the Fruit is soft, globular, and contains Seeds, which are for the most part kidney-shaped.

Boerhaave mentions three Species of this Plant; which are,

1. *Mandragora*; flore subcœruleo purpurascens. C. B. P. 169. M. H. 531. *Mandragora fœmina*. J. B. 618.
2. *Mandragora*; fructu rotundo. C. B. P. 169. *Raii Hist.* 1. 668. *Tourn. Inst.* 76. *Boerb. Ind. A. 2.* 70. *Mandragora*. Offic. *Mandragoras mas*. Ger. 281. Emac. 352. Park. Parad. 377. J. B. 3. 617. *Mandragoras mas vulgarior*. Park. Theat. 343. MANDRAGORA.

The Mandrake has a large brownish Root, sometimes single, and sometimes divided into two or three Parts, growing deep in the Earth, from which spring several large dark-green Leaves, a Foot and more in Length, and four or five Inches broad, sharp-pointed at the Ends, of a fetid Smell; from among these spring the Flowers, each on a separate Foot-stalk, about the Height and Bigness of a Primrose, of a whitish Colour, of one bell-fashioned Leaf, cut into five Segments, standing in a large five-corner'd Calyx; and are succeeded by smooth round Fruit, about as big as a small Apple, of a deep-yellow Colour when ripe, and of a very strong Smell. It grows wild in *Spain*, *Italy*, and *Turkey*, but in cold Countries only in Gardens. The Leaves and Roots are used.

This Plant is rarely used inwardly, many esteeming it to be a Narcotic, and of a poisonous Nature; though others deny it.

and say, that the Fruit may be eaten without any ill Effects outwardly, it is useful in all kinds of Inflammations, hot Tumors, and scrophulous Swellings: The Juice, dropt into the Eyes, is good to take away their Heat and Redness. It is seldom to be met with; and, though an Ingredient in the *Unguentum Populeon*, its Place is generally either supplied by Henbane, or *English Tobacco*. *Miller's Bot. Off.*

The Mandrake is commonly reckoned among Narcotics and Hypnotics; whether this be true of the Bark of the Root, which is the Part used in the Shops, I am not certain; but the Fruit is without doubt unjustly suspected. *Casp Hoffman* confesses himself unable to determine, whether the Apple, either with or without the Rind, may be eaten with Safety or not. *Aetius* seems to ascribe all the Malignity to the Seeds, as if the Pulp without them was harmless, unless eaten in an excessive Quantity. That the Pulp, however, may be eaten together with the Seeds, without Injury, appears from the Example of *J. Faber Lynceus* Professor of Botany at *Rome*, who, as we are assured by *J. Terrentius*, in his Notes on *Hernandez de Plantis Mexic.* before his Auditors eat up a large Mandrake-apple, Seed and all, in the Morning fasting, without any consequent Sleeping, or any the least ill Symptom. And, that the Experiment might be the surer, he continued, he says, without taking any thing else till Dinner-time, which was some Hours. The said *J. Terrentius* says, he has very often tried the same Experiment.

Since, therefore, Mandrake-apples are both esculent and sweet-scented, we need search for no other Interpretation of the Hebrew Word *Dudaim*, which *Reuben* brought to his Mother *Leah*; and since, as the Antients assure us, the Seed of the Mandrake, taken inwardly, purges the Uterus, it is probable, that *Rachel*, being acquainted with this Property of the Seed, might be very desirous of these Apples, that, after cleansing, by their means, the Uterus, she might be the better disposed to conceive. *J. Baubine.*

The Bark of the Root, which is imported from other Countries, chiefly from *Italy*, is narcotic, says *Schroder*, and soporiferous, and seldom used internally; outwardly, it is of Service in Redness and Pains of the Eyes, Erysipelas, hard Tumors, Strumæ, and the like. It is usual with strolling Quacks and Mountebanks to expose and sell to ignorant Persons for Mandrakes, certain Images formed out of the fresh Roots of some other Plants, as of the *Althæa* and *Arundo*, but principally of the *Bryony*. *Raii Hist. Plant.*

3. *Mandragora*; flore cœruleo; foliis undulatis, non asperis; fructu ovato. *Boerhaave Index alter Plant. Vol. 1. p. 70.*

The Plant, brought into a Chamber, or closed Room, procures Sleep to those who want it. The Root works violently, both upwards and downwards, the Consequence of which is a Loss of Strength, and sometimes Convulsions. The Leaves, boiled in Milk, and reduced to the Form of a Cataplasm, are effectual in all scrophulous and scirrhus Tumors. *Hist. Plant. ascript. Boerhaav.*

MANDRAGORAS. The same as MANDRAGORA.

MANDRAGORITES, *μανδραγορίτης*, Mandrake-wine, is thus prepared:

Take of the Bark of the Root of Mandrake, half a Pound: Cut it into thin Slices, string them, and let them down into nine Gallons of Wine, there to hang for three Months; after which, draw off the Liquor into another Vessel.

The ordinary Dose is a quarter of a Pint, in double the Quantity of Passum. They say, that half a Pint of this Liquor, mixed in six Pints of Wine, induces Sleep and a Carus; but that a Cyathus (the twelfth Part of a Pint) in a Pint of Wine, proves mortal. The moderate Use of it takes away the Sense of Pain, and thickens Rheums. It works the same Effects, if smelled to, or injected in Clysters. *Dioscorides, Lib. 5. Cap. 81.*

MANDSJADI. H. M. Is an Indian siliquous or Pod-bearing Tree, with a spiked pentapetalous Flower, and long Pods, containing nodous scarlet-coloured Beans. The Tree is one of the tallest in the Kingdom of *Malabar*, bears Fruit the twentieth Year after planting, and lives two hundred Years.

The Wood is of common Use for various Purposes, on account of its Solidity. The Leaves, reduced to Powder, are used in the Pagan religious Rites. The Seeds, which are not ungrateful to the Taste, are eaten by the common People, either boiled whole, or ground to a Meal; and are, besides, of great Use to Goldsmiths and Jewellers, who, on account of their exact Equality, employ them instead of Grains in weighing their Wares; for each *Matjelina*, as they call them, weighs four Grains, such as are in Use among the Goldsmiths, who, also, of the bruised Seeds, moistened with Water, and Borax, prepare a Glue for conglutinating the finer Sort of Vessels, when broken. Of the bruised Leaves the Physicians prepare a Potion for mitigating Pains in the Loins. *Raii Hist. Plant.*

MANGA. Offic. *Manga Indica fructu magno reniformi*. *Raii Hist.* 2. 1550. *Commel Flo. Mal.* 1. 170. *Mangas*. Park. Theat. 1631. *Mangas, five Amba*. J. B. 1. 173. *Amygdalam referent fructus hirsutus*. *Ejuld.* 1. 173. *Mangas & Amba Linschotani.*

M A N

chotani. Chab. 12. *Mangas Domestica*, Plutr. *Almag.* 141. Par. Bat. Prod. 351. *Perfica similis putamine villosa*. C. B. Pin. 440. *Manga*, *Amba*, *Ambo*, & *Ambe*. Camel. Sylog. *Arbor Mangifera*. Bont. 95. Jons. Dendr. 72. *Conchifolia India Orientalis comantibus floribus & fere corymbosis*. Plutr. Phytog. Tab. 142. Fig. 1. *Mao five Mau*. Hort. Mal. 4. 1. Tab. 1. 2. *Amba Perfica Indica fructu villosa*. Herm. Mus. Zeyl. 54.

The MANGO TREE.

It is a vast Tree, forty Foot in Height, and eighteen in Thickness, and spreads its numerous Branches all around at a great Distance, being always green, and bearing Fruit once or twice every Year, from six or seven Years old to an hundred. It is propagated by Infition, or sowing the Seed, in *Malabar*, *Goa*, *Bengall*, *Pegu*, and many other Countries of the *East Indies*.

The Fruit is of a round oblong Figure, flat, slightly sinuated, or hollow'd at the Sides, and shaped much like a Kidney, bigger than a Goose Egg, smooth, shining, first green, speckled with white, then inclining to yellow, and at last of a Gold-Colour; it has a yellowish and succulent Pulp, not unlike that of a Peach; or rather a Plumb, first acid, then acidodulcid, and pleasant to the Taste. Within the Pulp is contained an oblong, compressed and lanuginous Stone, thin, yet very hard and tenacious, and including a calous, oblong Kernel, very like an oblong Almond, and of the same Bigness, and of a bitterish, though not unpleasant Taste.

There are various Sorts of this Fruit, as there are of our Apples and Pears, which are very different, according to the Countries where they grow: That Species, which is without a Stone, and is very grateful to the Palate, seems to us only a Variety, or a degenerated Fruit. The Fruit is cut into Slices, and eaten either without Wine, or macerated in Wine; it is also candy'd, in order to its Preservation. Sometimes they open it with a Knife, and fill up the Middle with fresh Ginger, Garlick, Mustard and Salt, with Oil or Vinegar, that they may eat it with Rice, or after the Manner of pickled Olive.

As to its Temperament; this Fruit is cold and moist, though the *Indian* Physicians affirm the contrary. We make use of pickled Mangoes, which are imported to us, as we do of pickled Cucumbers, for Sauce to roasted Meat. The Stones roasted are said to cure a Looseness, which *Garcias* found to be true. The Wood of the Tree, with Cinders, is used for burning the Carcases of the Pagans, as being consecrated to this Rite; whence it serves also for Coffins, in which they reposit their Dead; but it is but of a soft Substance, and of short Duration.

The Stalks supply the Place of *Arequa*, or *Caunga*, in the chewing of Betel; the same calcined and reduced to Powder, take away Warts. Of the tender Leaves, with the Bark of the *Avanacoe*, that is, the *Ricinus*, the Seed of Cummin, and *Parpadagam*, is made a Decoction, which is highly beneficial in the Cough, Asthma, and other Affections of the Thorax. The Bark of the Tree pulverized, and taken in Chicken-broth, is an excellent Dissolvent of extravasated and coagulated Blood, occasioned by a Fall, in any Part of the Body. The Juice of the Bark, with the White of an Egg, and a very little Opium, taken inwardly, is a present Remedy against the Diarrhea, Dysentery and Tenesmus. Of the Gum of the Tree, and the Flowers of Rice, with the Addition of a small Quantity of Opium and Pepper, are prepared Pills, which also cure all sorts of Fluxes of the Belly. Of the Flower of the dry'd Kernels, the Natives have the Art of preparing various kinds of Food.

MANGAIBA, *Maregr.* & *Pison*. is a pruniferous or Plumb-bearing Tree of *Brasil*, with an oval Fruit, containing many Seeds. It is a beautiful Tree, of the Bigness and Shape of our acid Cherry-tree; the Fruit is of the Size of a Plumb, or a Hen's Egg, roundish or oval, and of a Gold-Colour, speckled with red. The Seeds are yellow, flat, and from six or seven, to twelve or more in Number; and containing, under a thin Skin, like that of sweet Almonds, but viscid, a very white Kernel, of a sweet Taste; for which Reason the Seeds are swallow'd entire in eating the Fruit. The Fruit is not eatable before it falls off spontaneously; for while it continues on the Tree, it is full of a tart and bitter Milk, so that the Cattle will hardly meddle with it before it is ripe; but as soon as it falls to the Ground, it acquires a Maturity. Great Quantities are daily gathered under the Trees, and such as are not thoroughly soft, are set aside for a Night, that they may soften. When it is duly ripe, it is easy of Digestion, qualifies the burning Heats of the Viscera, and refreshes those who labour under Fevers. In short, the Fruit is not subject to injure the Stomach, though very freely eaten by a Person fasting, except that, being of a cold, humid and dissilable Nature, it excites Flatulencies, and causes a Stool.

M A N

At the End of Winter, that is, in *August*, the Tree begins to flower, and for above nine Months is loaded with Plumbs. *Raii Hist. Plant.* p. 1644.

MANGANESE. See MAGNESIA.

MANGARATIA. See ZINGIBER.

MANGAS, *The same as MANGA.*

MANGIER-BLANCE, a Species of *Anona*; the same with the Custard-Apple. See ANONA.

MANGLE, the Mangrove Tree. See GUAPARAIBA.

MANGO, a Slave-Merchant. These People, as *Galen* informs us, were versed in the Art of setting off their Slaves to the best Advantage, by employing Unctions, Pication, and striking emaciated Parts gently with proper Instruments, in order to render them plump and beautiful.

MANGOSTANS, *Bontii*, is an *Indian* Fruit, of the Size of a small Orange; it is cardiac and stomachic, and its Rind or Peel is astringent. *Lemery des Drogues.*

MANGOUSTE, MANGOUSE, an *Indian* Quadriped, much like our Weasels, only a little longer and thicker. The *Indians* ascribe several Virtues to its Parts: The Liver, they say, is good for the Epilepsy; the Flesh pulverized and applied, cures the Bites of venomous Beasts; the Gall is good for Diseases of the Eyes; the Fat is an excellent Remedy for cold Humours, Rheumatisms, and the Pains of the Gout. *Lemery des Drogues.*

MANGUE, *The same as MANGLE.* See GUAPARAIBA.

MANHEB. Scoria. *Rulandus.*

MANIA, Madness.

There is an absolute Necessity for reducing Melancholy and Madness to one Species of Disorder, and consequently of considering them in one joint View, since, from daily Observation and Experience, we find, that they both arise from the same common Cause and Origin, that is, an excessive Congestion of the Blood in the Brain, which is a weak and tender Part of the Body; and that they only differ in Degrees, and with respect to the Time of Invasion; so that Melancholy may be justly taken for the primary Disorder, and Madness for an Augmentation, or an accidental Effect of it. This was the Opinion of the ancient Physicians. Thus *Alexander Trallian*, in *Lib. 1. Cap. 16.* informs us, that Madness is nothing but Melancholy arrived at a higher Degree, and that the Connection between these two Disorders is so great, that a Transition from the one to the other easily happens. *Arctæus* also, in *Lib. 3. Cap. 5.* tells us, that Melancholy is the Beginning and Origin of Madness, which is brought on rather by the Increase of Melancholy than by any other Cause. This Doctrine is confirm'd by daily Experience and accurate Observation, since we find that melancholic Patients, especially if their Disorder is inveterate, easily fall into Madness, which, when removed, the Melancholy again discovers itself, though the Madness afterwards returns at certain Periods: Nor are the Measures to be taken for the Cure of these two Disorders greatly different from each other, since the Physician, who knows how to remove or lessen the immediate Cause of Melancholy, is by this very Means qualified either for preventing or curing Madness.

But before we consider the Nature, Generation and Difference of these Disorders, we shall, from the Antients, and especially the *Greeks*, among whom various Species of Deliriums were very common, give an Account of the several Phenomena, Signs and Marks, by which Melancholy and Madness discover themselves. But none has given a more just and accurate History of these Disorders than *Arctæus*, who, in *Lib. 3.* gives us the following Marks of Melancholic Patients. Those, says he, who are afflicted with Melancholy, are sad, dejected and dull, without any apparent Cause. They tremble for Fear, are destitute of Courage, afflicted with Watchings, and fond of Solitude. They are prone to Anger, changeable in their Temper, and ask a Reason for the most trifling and inconsiderable Occurrences. They are at some Seasons so covetous, that they will part with nothing, but soon after become silly and prodigal. They are generally covetive, sometimes discharge no Fæces at all, and at other Times their Excrements are dry, round, and covered with a black and bilious Humour. They discharge a small Quantity of Urine, which is acrid and bilious. A large Quantity of Flatulences is lodged in their Præcordia. Putrid and fetid Eructations are discharged from their Mouths: Sometimes also they vomit a certain acrid Humour with the Bile. Their Countenances become pale: Their Pulse is slow. They are lazy and weak, but discover a preternatural Voracity in eating their Aliments.

The Signs of Madness are also given by the same Author, who tells us, that Maniacal Patients, when provok'd to Anger, become raging mad. Some, says he, wander far from home: Some cry out in a hideous manner: Some shun the Sight of Men, betake

betake themselves to Solitude, and only converse with themselves. Others tear and mangle their Bodies. In the highest Degree of the Disorder, they perceive red Images before their Eyes, so that they in a manner think themselves struck with Lightning. They are immoderately inclined to Venery, so that they carelessly without either Dread or Shame. But when the Disease is in the Decline they become Stupid, Calm and Mournful, and coming to the Knowledge of their Misfortune, they are dejected on account of their calamitous and miserable Situation. These are the Signs of Madness in its Beginning, Progress, and Declension. I shall therefore enumerate some of its antecedent Signs, which I have observed in the Course of my Practice: the most considerable of these, are a Redness and Suffusion of the Eyes with Blood; a tremulous and inconstant Vibration of the Eye-lids; a Change of Disposition and Behaviour; a Pride discovering itself in the Countenance, the Voice, and the Gestures, a Grinding of the Teeth; an uncommon Hatred to particular Persons. Little Sleep, a violent Cephalalgia, a Quickness of Hearing, a Ringing and Kind of musical Sounding of the Ears. Among these Signs we may also reckon the incredible Strength, and the surprising Capacity of bearing Cold, observable in maniac Patients; and in Women an accumulation of Blood in the Breasts in the Increase of the Disorder.

But as these Signs of Madness frequently accompany an acute Delirium, commonly called a Phrenitis, we must be careful to distinguish these two Disorders. When therefore a Delirium happens in the Beginning of an acute Fever, or comes on when it is at its Height, but is removed when the Fever is alleviated, the Disorder is in this Case generally called a Phrenitis, nor does it call for any other Remedies than those, which are proper for the Cure of the Fever. But if the Disorder is long continued, unaccompanied with a Fever, and succeeds a melancholic State, it is universally called Madness. There is also a certain Privation of Reason, which cannot be properly called either Melancholy, Madness, or a Phrenitis; that Disorder, for Instance which is excited in a sound Person, by the Use of certain Narcotics, such as the Solanum Furiosum, or its Berries, the Lolium Temulentum, Hen-bane and its Seeds, and Thorn-apple. But this Species of Disorder is soon and totally removed by proper Medicines.

But that we may the more accurately investigate the true and immediate Causes of Melancholy and Madness, to the Removal of which the principal Intention of Cure ought to be directed, we shall give an Account of what has been observed in dissecting Persons who have died of these Disorders. In the *Miscell. Nat. Curios. Dec. 2. an. 6.* we are told, that on dissecting a maniac Person, many Ramifications of the carotid and vertebral Vessels were observed twisted together like a Net in the Base of the Brain. After taking out the Brain, almost six Ounces of bloody Serum were left in the Cranium. Then raising the Medulla-oblongata at the Base of the Brain, with the Fingers, and discovering the Ventricles situated on each Side the Plexus-Choroides was found to be preternaturally large, on both Sides distributed over all the internal Surface, of the Ventricles, and consisting of a great Number of considerable Blood-vessels. This Plexus was every where full of lived Vessels as large as a Pea, which when opened with a Lancet, discharged a gelatinous Serum. Thus also *Henricus ab Heer, in Obs. 3.* tells us, that upon dissecting a maniac Person, the Brain was found highly dry, hard, and its superior Part friable upon the Application of the Fingers. Its Substance also was, for a Fingers-length, every where tinged with a yellow Colour resembling that of a Citron. It was preternaturally moist and soft about the Ventricles, and the Origins of the Nerves appeared dry.

In the *Miscell. Nat. curios. Dec. 2. an. 4. Obs. 162.* we have an Account of the Dissection of a phrenitic Patient, in whom the Gall-bladder was full of a Bile, which resembled Tar; and the Sinus Falciformis contained a Kind of Polypous Substance. The *Pia Mater*, which was turgid with many Blood-vessels, could be accurately separated from the Brain; it was also far thicker, and furnished with larger Vessels than the *Dura Mater*. A similar Case occurred to me more than thirty Years ago in a Gentleman of Distinction, of a studious and melancholic Turn, who died of a Delirium in the Height of the small-Pox: In dissecting his Body, all the Muscles were found highly dense, compact, robust, and covered with no Fat, for the *Membrana Adiposa* was almost entirely wanting. The Gall-bladder was full of a Bile, which was thick, and as black as Pitch. The Pancreas was large, thick and hard. The Vessels of the *Dura* and *Pia Mater* were turgid with a thick Blood, and in the latter appeared varicose. From the *Sinus Falciformis*, a Concretion of Blood formed into a polypous

Mass was extracted, and in the Ventricles of the Brain there was a lived Serum.

A due Consideration of these Circumstances will lead us to the immediate Causes of these Disorders, and enable us to give a more accurate Account of them than otherwise we could have done. Melancholy, then, is a strong and lively working of the Fancy, dwelling intently on certain Objects, accompanied with Alienation of Mind, long continued Dejection, Dread and Sadness without any manifest Cause, and arising from a difficult Circulation of the Blood thro' the Vessels of the Brain, where it is too copiously congested and becomes stagnant. A *Mania* is a violent Madness accompanied with Temerity and a preternatural Strength, arising from a violent Conveyance of a thick copious and melancholic Blood thro' the Vessels of the Brain. Whereas a *Phrenitis* is a Madness accompanied with a Fever, and arising from an inflammatory Stagnation of the Blood in the Vessels of the Brain.

That the Brain, therefore, is the Seat of all Disorders of this Kind, is sufficiently Obvious; and *Hippocrates*, in his Book *de Morbo Sacro*, tells us, "That it is by Means of the Brain that we reason, understand, see, hear, and distinguish between Good and Evil. By its Means it, also, is that we become Mad." For the Brain is the most noble Part of the Body, which, tho' in a manner inconceivable by us, the wise and bountiful Parent of Mankind Species has made the common Receptacle or Repository of the Soul, the Genius, the Fancy, the Memory, and the external Senses. But though the Nature and Essence of this intelligent and sensible Principle, whence its Effects and Faculties proceed, are so abstruse as not to be comprehended by the human Mind, yet Physicians, from careful and accurate Observation, have learned, that according to the different Nature and Condition of the Blood, and its Motion through the Vessels of the Brain, both the rational and sensitive Powers are so surprisingly changed and altered, that the Difference of moral Characters, Inclinations and Appetites, is to be accounted for from these Circumstances.

The Antients, who were Strangers to the Circulation of the Blood, assigned various, though absurd and unsatisfactory proximate Causes of Deliriums. Thus some of them accounted for them from an Exsudation of the black Bile, and its Conveyance to the Head; as also from a preternatural Dryness of the Brain. Other later Physicians, as the Cause of Melancholy, have accused the dry Nature of the animal Spirits, by which they in some Measure partake of the Quality of Aqua Fortis. Whereas they assign the Inflammatory and sulphureous Nature of the animal Spirits as the Cause of Madness. But at present we are capable of accounting far more accurately, not only for the Diseases of the Body, but also those of the Mind, from the State and Condition of the Blood. *Hippocrates* also seems to have been of this Opinion; for in his Book *de Flatibus*, he tells us, "That the Blood contributes so greatly to Prudence that this is changed, and other Notions and Sentiments possess the Mind, if the Motion of the Blood is disturbed and irregular." And in the same Place he says, "if the Condition of the Blood is good, Prudence takes Place; but when the former is changed the latter fails with it."

And certainly it is evinced by Observation and Experience, that all the Functions of the Mind, such as Reason, Genius, Fancy, and Inclination, are in their due and natural State, if Blood of a laudable Quality is in a due Quantity conveyed to the Brain, and carried thro' its Vessels in a free uninterrupted and equable manner; so that, in Consequence of this, the external Senses, unless there is some fault in the Organs of Sensation, are preserved in their natural and proper Condition. But all these noble Functions are changed or depraved, diminished, or totally destroyed, when the Blood and Humours receding from their natural Temperature and Quantity, are not conveyed to the Brain in a moderate and equable manner, but with a difficult, slow and langued Motion, or with too brisk and violent an Impetus.

Hence we may reasonably affirm, that the immediate Cause of Melancholy consists in a preternatural Congestion, Stagnation, and difficult Motion of a thick Blood in the Brain, which is a weak Part of the Body; whereas the Origin and Foundation of Madness, consists in a violent and impetuous Motion of a thick and melancholic Blood, thro' the Vessels and small Fibres of the Brain. The Truth of this will be afterwards evinced, when we shew the Connection between the antecedent and remote Causes of these Disorders.

Since we have already observed, that in dissecting Persons cut off by a Delirium, the Motion of the Blood thro' the Head, was found to be changed and perverted, whilst the Vessels were not only so intarcted with a Redundance of Blood, and so varicose, that in Consequence of the Stagnation, a large

Quantity of extravasated Serum was found in the Base of the Brain, but also, that the Medullary and cortical Substances of the Brain appeared affected, it can no longer be doubted but the Cause of these Disorders, and of Death, consists in this preternatural State and Condition.

Having specified the immediate Causes of these Disorders, we now come to investigate and trace those more remote and secondary Causes, which contribute to this perverse and disorderly Circulation of the Blood thro' the Vessels of the Head and Brain: Among these, a certain Weakness of the Brain may justly be esteemed the mediate Cause of Deliriums; since, without the Pre-existence of such a Weakness, such a faulty Motion of the Blood could not be produced in the Brain. But such a Weakness is principally produced by violent Disorders of Mind, especially long continued Grief, Sadness, Dread, Uneasiness and Terror; all which have an unhappy Influence on all the Parts, and greatly contribute to impair the Strength of the Brain, and weaken the systaltic Force of the Vessels. The same Effect is, also, produced by intense Application of Mind, or too long protracted Lucubrations; by which means, in Consequence of a Dissipation of the animal Spirits, the moving, and sensitive Force of the Stamina lodged in the Brain, and *Medulla Oblongata* are greatly impaired. Hence the Reason is Obvious, why the Literati, and Men of a studious Turn, are more Subject to Alienations of Mind than the common People.

But among the Causes which dispose to the most violent Delirium, and, by weakening the Tone of the Membranes and Stamina, destroy the Force both of the Mind and Body, none is more powerful than an Excess of Love. Instances of which are found in *Forestus*, *Lib. 10. Obs. 29. and 30. Barthol. Cent. 2. Hist. 69. and Valeriola, Lib. 2. Obs. 7.* But in Women fit for Marriage, and as yet strangers to the Matrimonial State, that Species of Love is principally injurious, which proceeds from a long Continuance and Corruption of the genital Fluid, which especially, in a State of Idleness and Luxury, is copiously secreted in the vaginal Glands. Of this there are Instances found in *Platerus, Lib. 1. Prox. Cap. 3. Geor. Horst. T. 2. Op. Lib. 2. Obs. 68. And Ephemerid, Nat. Curios. Obs. 126. Decad. 2. An. 10.* for in Consequence of the mutual Union between the Soul and the Body, together with the Motion of the Fluid and solid Parts, venereal Ideas are, by a Congestion and Stagnation of the Juices in the spermatie Organs, excited in the Fancy, which often dwelling intently upon these Ideas, depraves and perverts Reason in a surprising manner. Nor is it absurd to suppose, that the spirituous seminal Fluid, corrupted by its Continuance, returns thro' the lymphatic Vessels to the Blood, and as it were, by Sympathy, contaminates that Fluid in the Blood, which is conveyed to the Brain and Nerves, for the several Purposes of Sensation and Motion, so that in Consequence of this, a great Dejection of Strength is produced.

Besides, it is certain, from medicinal Observations, that an excessive Evacuation of Semen, whether voluntary or involuntary, has proved the Cause and Origin not only of Melancholy, but also of Madness. Thus *Henricus ab Heer, in Obs. 60.* gives us an Instance of a Man of sixty Years of Age, who, in Consequence of an excessive Evacuation of Semen, during the Dog days, became Melancholy. And *Forestus in Obs. Lib. 10. Obs. 25.* gives us an Instance of a young Man, who marrying a young wife about the Middle of Summer, became mad by an excessive Use of Venery; for it is well known that the Semen is the most fine and active Part of the Blood; and that it partakes almost of the same Nature with the nervous Fluid. Hence we observe that immoderate Evacuations of the Semen not only weaken the Functions of the Senses, and the Force of the Genius, but also produce other Disorders arising from a Weakness of the Brain.

It is, also, carefully to be observed, that long protracted Deliriums are very common to certain Families; and may therefore be justly classed among the Number of Hereditary disorders. The Reason of this, in my Opinion, is, that the morbid and weak Nature and Texture of the solid and moving Parts, is propagated from the Parents to the Children; especially if the former, in the Generation of the latter, were affected with these Disorders.

But nothing so suddenly, unexpectedly, and even without any proceeding Cause, throws a Person, otherwise Sound, into Madness, as Narcotic and stupefactive Medicines, ignorantly taken. Thus it is certain, from Experience, that the Seeds of the Thorn-apple, and Henbane, as also the Berries of the deadly Night shade, are capable of inducing a perfect Madness, soon after they are exhibited. Those who are curious to enquire into the pernicious Energy of such hurtful Substances, may con-

sult *Miscell. Nat. Curios. Decad. 3. an. 3. Obs. 170. Willis de anim. Brut. Cap. 12. Matthiol in Dioscorid. Lobelius in Novis Sterpium adversariis. Borelli. Cent. 4. Obs. 45. and Helmont, in his Demens Idea.* Besides, it is well known to skilful and attentive Physicians, that Medicines, in which Opium is an ingredient, when preposterously exhibited in a Delirium, are so far from alleviating it, that they rather increase and render it more obstinate. It will not be hard to assign a Reason for this, if we consider that these Remedies abound with a certain volatile and fetid Sulphur, highly unfriendly to Nature; and which, when resolved by the Heat of the Body, assumes the Form of Exhalations, which insinuating themselves deeply into the minute Pores of the Brain and Nerves, weaken the moving Force of the pure Fluid there contained, and impair the Elasticity of the nervous Fibres, so that a remarkable Diminution and Depravation of all the Powers of Sensation and Motion succeed.

Previous Diseases, and especially acute Fevers, also contribute greatly to destroy the natural Tone and Tension of the Vessels and Stamina of the Brain. Hence nothing is more frequent than to observe, first, a Phrenitis, and, after that, a Species of chronical Delirium, produced after burning Fevers, especially when long protracted, after the *Hungarian Fever*, that Species of Fever called a putred Synoche, a choleric Fever or *Causus*, and sometimes after a variolous Fever. The Reason of this is Obvious; because, under so intense a febrile Heat, which is generally accompanied with continual Watchings, the nervous Fluid, which is in a particular manner subservient to Sensation and Motion, is dissipated. By this means, also, the fibrous Texture and Structure of the Brain is considerably injured; in Consequence of which the Secretion of the animal Fluids can not be duly carried on.

The Brain is also greatly weakened, and the Nature of the nervous Fluid exhaled by Drunkenness, and an immoderate Use of Spirituous Liquors; for which Reason *Seneca, in Epist. 83.* no less justly than beautifully affirms Drunkenness to be Madness; for says he, "Cruelty follows Drunkenness; for by its means, the Reason and Soundness of the Mind is violated and vanquished."

We now come to consider those Causes, by which the Blood is impetuously conveyed from the inferior Parts to the Head. And among these, we find none capable of sooner converting Melancholy into Madness, or of exciting fresh Paroxysms of these Disorders, than violent Anger, *Galen, in Lib. 6. Aph. 23.* declares himself of the same Opinion, especially if Pride, Haughtiness, Hatred, or an insatiable Desire of Revenge, reign in the Patients Breast. It is true, melancholic Persons are not naturally prone to Anger; but when their Mind is once ruffled by that Passion, they rage so furiously, that the Disorder is not easily allayed. But Anger is principally injurious to melancholic Patients, because their Blood, which is thick and compact, being thrown into a violent Motion, not only greatly injures the fine and tender Texture of the Brain, but also may be easily stopt in its Course.

To this Class of Causes also belongs external Cold admitted to the Body, and especially to its inferior Parts. That this contributes greatly to create these Disorders, is sufficiently obvious from the Paroxysms and Fits of melancholic Patients, which we always observe to be preceded by Horripilation and a Sense of Cold in the external Parts. Nor will it be difficult, from a careful Consideration of these Circumstances, to account, in a rational manner, for the numerous terrible Symptoms with which Melancholy is accompanied; for since, under such a Horror and Sense of Cold, the external Parts are, as it were, spasmodically constricted; the Blood, in Consequence of the Diminution of the Space it possessed, and the lessening the Cavities of the Vessels, is, with a greater Force and Impetus, conveyed to the internal Parts; after which becoming stagnant in the greater Vessels, especially the Lungs, Heart and Brain, it creates various Disorders, according to the Variety of these Parts. Thus oppressive Anxieties, Sighs and Shortness of Breathing, about the Præcordia, Tremors and Palpitations of the Heart, Vertigo's, and a Sensation of Weight in the Head, Fierceness of the Eyes, long Watchings, and various Workings of the Fancy, intensely dwelling upon one Object, are produced by this Means.

To this Class of Causes, we may also justly refer the Diminution or Suppression of the Excretions of Blood, whether natural or artificial in both Sexes. Thus it is certain from Experience, that Melancholy has been produced by an Omission of accustomed Venesection in plethoric Patients; by an irregular Discharge of the Hæmorrhoids or Menstrues, or an imprudent Obstruction of them, and by preposterously stopping Hæmorrhages of the Nose. The same Effect is also produced, it, after Labour, the Lochia are too scantily evacuated or totally suppressed; or,

if about the Years of Puberty the Eruption of the Menfes should prove difficult; for that both Melancholy and Madnefs have been produced by thefe Circumftances, is obvious from numberlefs Obfervations, which occur in the beft practical Authors. Thus *Hippocrates*, in his Book *de Superfatiat*, informs us, that, from long Experience, he found that the Interception of an ufual Evacuation of Blood, produced Madnefs. *Foreftus* alfo, in *Lib. 10. Obf. 23. and 24.* and *Binningerus*, in *Cent. 1. Obf. 37.* give us Inftances of Madnefs produced by a Suppreffion of the Menfes. And *Zacutus Lufitanus*, *Lib. 1. Prax. Admirand. Obf. 37. and 57.* informs us, that both Melancholy and Madnefs may be produced by a Suppreffion of the hæmorrhoidal Difcharge. For by the Blood too copioufly congefted, and becoming ftagnant about the Inteftines, their nervous Coats being compreffed, are ftimulated to fpafmodic Motions, by the Force of which the Blood there accumulated is translated to the fuperior Parts, and efpecially to the Head. See HÆMORRHOIDES. *Hippocrates*, in his Treatife *de Virgin. Morb.* has a beautiful Paflage relating to this inverted Motion of the redundant Blood. “Young Women, fays he, fit for Marriage, are afflicted with a Species of Delirium, in which they think they fee certain Demons, about the firft Appearance of the Menfes, tho’ free from fuch Diforders before; for after the Blood is accumulated in the Uterus, as if it was ready to be difcharged, if the Mouth of the Uterus is not open, and the Blood is at the fame time increafed by the Aliments and Growth of the Body, then the Blood, not finding a free Paflage, in confequence of its large Quantity, recoils to the Heart and Diaphragm. And, when thefe are filled, the Patient becomes foolifh, then torpid, and laftly delirious.”

From what has been faid, we may eafily affign a Reafon why Melancholy is a Symptom very frequently attending hysteric and hypochondriac Diforders; for it is certain, that a want of a due Tone of the Vifcera, and a flow Circulation of a thick and redundant Blood thro’ them, produce in the Abdomen Spafms and Flatulences, from which all the Symptoms accompanying hypochondriacal and hysteric Diforder, may be derived and accounted for.

We now come to inveftigate thofe Caufes, which contribute to the Generation of a thick Blood, and its Stagnation in thefe Parts. Among thefe, the moft confiderable is Idlenefs and Eafe, which powerfully generates not only hypochondriacal and hysteric Diforders, but alfo the Deliriums generally fubfequent to them; for as due Exercife procures Strength to the folid Parts, and not only renders the Humours more fluid, but, alfo, puts them in a brisker Motion, fo we find it confirmed, from daily Experience, that, in confequence of a want of due Exercife, the Strength of the Body is weakened, all its Functions impaired; the falutary and ufual Excretions diminished, and the Humours rendered thick, vifcid, and ftagnant. All thefe Misfortunes are ftill heightened by Solitude, during which various delufory and gloomy Ideas prefent themfelves to the Mind of the Patient, and deftroy his Happinefs.

Nor are we to feclude Aliments and Drink from the Number of Caufes, which, in a remote and fecondary manner, produce Melancholy and Madnefs; for if, in confequence of an exceffive Collection of acid Humours in the Stomach, Perfons become voracious, acquire too large an Appetite, or eat Aliments of a grofs Texture, fuch as are hard, flatulent, or lefs foluble, without, at the fame Time, using a fufficient Quantity of Drink, crude and compact Humours, which fupply Matter and Nourifhment to Melancholy and Madnefs, are generated; and when thefe Humours are conveyed to the Blood, they render the Stamina and flefhy Fibres more rigid, hard, and, confequently, lefs fit and proper for performing their refpective Motions.

But that we may be the better enabled to explain the Nature of Melancholy and Madnefs, we muft obferve, that the Blood of Perfons labouring under thefe Diforders, when taken from the Veins, is black, and hotter than in a natural State, as we are told by *Etmuller*, in *Colleg. Præf.* And *Lindanus* obferves, that the Blood of fuch Patients deposite its Serum more flowly, and in a fmall Quantity, than in a natural State; that, when weighed, it is found heavier, evaporates more flowly, and leaves a larger Quantity of a thick Magma, than the Blood of found Perfons. As for the Excrements of melancholic and maniac Patients, they are generally difcharged in a fmall Quantity, hard, of a dark red, and fome Times of a greyifh Colour. The Urine, alfo, difcharged by them under the Paroxyfm, is light and thin.

As for the Perfons moft fubject to Melancholy and Madnefs, we muft obferve, that not only dull, ftupid, and forgetful Perfons, but alfo, and that more frequently, ingenious Men,

Poets, Philofophers, and thofe charmed with the more deep and abftrufe Parts of Mathematics and Algebra, are fubject to Melancholy. And we find, from Experience, that Perfons of melancholico-choleric Temperaments, lean Habits of Body, rigid and tenfe Fibres, and a quick Pulfe, as alfo thofe who, being prone to Anger, are daily and eafily provoked by Family Altercations, efpecially at Meals, are above all others fubject to Madnefs. Nor are thofe who are naturally languid, weak, timorous, or whose Flefh is moift and lax, totally exempt from thefe Diforders; as is obvious from this, that when the Menfes in young Women, or the Lochia in Child-bed Women, are not duly evacuated, fuch Women are fubject to Diforders, accompanied with Alienation of Mind. *Hippocrates* alfo, in *Lib. 2. Epidem. 6. Sect. 3.* and *Galen* alfo, *Lib. 3. de Locis affectis, Cap. 6.* juftly obferve, that Perfons of fanguine Habits are fubject to melancholic and hypochondriac Diforders; and this is alfo confirmed by Experience.

But fince, in order to know the particular Nature and Genius of Difeafes of the Mind, and form a right Judgment with refpect to their Events and Cure, it is of great Importance to be well acquainted with the various Circumftances capable of producing them; we are, for this Reafon, carefully to confider, whether the Diforder proceeds from a moral Caufe in the Mind, or one of a physical Nature in the Body; for in the Courfe of Practice, nothing more frequently happens, than that, upon inquiring into the firft Caufe of the Diforder, we are told, that fome quick and fudden Commotion of Mind, Anger, Terror, long Grief, and Uneafinefs, or an Excefs of Love, laid the firft Foundation for it. To which Circumftances if an hereditary Weaknefs of the Brain, and internal Senfes, or a remarkable Error in Regimen, fuch as Drunkennefs, exceffive Refrigeration of the Body, or immoderate Venery, are joined, it is ufual for Men, otherwife found and vigorous, without any manifef Sign of any chronical Diforder, to fall into fuch Difeafes of the Mind, which are removed but flowly and with Difficulty. And when this happens, the Difafe is to be efteemed of the idiopathic and primary Kind; in confequence of which, it will more remarkably affect the Mind.

But more juft and rational Hopes of Recovery may be entertained, if the melancholic Delirium is of the Symptomatic Kind; and in Men accompanies the hypochondriac, and in Women the hysteric Diforder; which may be known, when the *Primæ Viæ* are affected with Spafms, Flatulences, Rumbings, and Eructations; when the Diaphragm is compreffed and uneasy; when the Excrements are hard; and when there are violent Tenfions of the Hypochondria, accompanied with a kind of Twitchings; to all which, lacerating Pains of the Head, Vertigos, Ringing of the Ears, and Watchings, are frequently joined. There is the fame Hope of an eafy Cure, if the Madnefs arifes from an ill-cured intermittent Fever, a Suppreffion of the Menfes, the Lochia, or hæmorrhoidal Difcharge, or from Narcotics; for a Madnefs of this Kind is greatly alleviated, or totally removed, by proper Medicines, and a Return of thefe natural Excretions.

Befides, as all the Difeafes of the Brain, and animal Spirits, have their Degrees of Intenfion, and Remiffion, and ftated Periods, at which they return; fo this is alfo obfervable in all the Species of Madnefs. When therefore the Paroxyfms are flight, and, as it were, beginning, the Cure is not very difficult. But if the Diforder is inveterate, and has taken deep Roots, or if it has but fhort Remiffion, it is certain, that it is almoft incurable; for in Procefs of Time, the Brain, which is the Seat of the Mind, and nervous Fluid, has its Texture fo furprifingly depraved, that the greateft Skill and Judgment are neceffary to repair the Misfortune. That mad Perfons are fo rarely cured, is, in my Opinion, owing to this, that they reject their Phyficians, and dread their Medicines as Poifon; whereas melancholic, and efpecially hypochondriac Patients, indulge themfelves too much in Medicines, which they daily demand from their Phyficians, whom they often change; by which means their Condition is rendered ftill worfe. But it is a very bad Sign, and denotes an increafed and desperate Degree of Madnefs, when the Patients, after profound Sleep, are continually delirious, and infenfible of the Force of Cold, Efficacy of ftrong and draftic Medicines, whether of the emetic or purgative Kind. And if, in confequence of a want of Sleep, and long Abftinence, a great Lofs of Strength is brought on, or if the Patient becomes epileptic, convulfive, or lethargic, we may juftly conclude, that Death is not far off.

The fkilful Phyfician alfo knows, that the Difeafes of the Mind are of fuch a particular Nature and Genius, and fo different from other Diforders, that fome times they remit for a long time; fo that the Patients are thought entirely found

and well, but return at certain Periods, especially about the Solstices and Equinoxes, the Times at which they first appeared. If the Disorder is of this kind, the Recovery of the Patient is not to be despaired of, if the Physician endeavours totally to remove the Misfortune, and the Patient observes due Caution and Regularity. *Aretæus*, in *Lib. 3.* speaks in the following manner: "Madness both remits, and is capable of being totally removed by sufficient Care. But the Intermision is not of the genuine Kind, when the Madness terminates spontaneously, when it is not properly removed by Medicines, or cured by the Clemency of the Season of the Year; for some, who have appeared quite free from the Disorder, have again become mad, either in the Spring, or by an Error in Regimen, or by Anger excited by any means."

It is, also, worth our Observation, that, in maniac Patients, Nature often excellently performs both the natural and vital Functions; so that such Persons are rarely seized with any other Disorders, though many external disposing Causes should concur to produce them. Hence it is, that mad Persons are seldom subject to epidemical Disorders. Nor are there Instances wanting, of Persons, who, under these violent and afflicting Diseases of the Mind, have lived seventy Years and more.

A salutary Solution of these Diseases sometimes happens by the Force of Nature, without any Assistance from Medicines or Physicians, by critical Excretions of Blood, whether from the Nose, the Uterus, or the Anus. And such a Solution happens the more certainly, if the Disorder derived its Origin from a Suppression of these Evacuations. And *Hippocrates* justly observes, in *Aph. 21. Sect. 6.* that Madness is terminated by Varices and the Hemorrhoids. I myself know Instances of Persons, who, in their Youth being afflicted with a violent hypochondriac Melancholy, have at a more advanced Age been freed from that Disorder, by the hemorrhoidal Discharge. Hence it also happens, that Fluxes and Dysenteries terminate these Disorders, as *Hippocrates* justly observes in *Aphor. 9. Sect. 7.* And I lately knew Madness brought on in a young Man by a Fright, happily terminated by a Diarrhœa. We must also carefully advert to an Observation made by *Hippocrates*, in *Aphor. 65. Sect. 5.* where he tells us, "that when Tumors appear upon Ulcers, the Patients seldom go mad; but, when these are suddenly dissipated, Madness is excited." This Doctrine is confirm'd by other Observations, which evince, that Melancholy has been terminated by Pustules, and the Itch appearing on the Skin. Thus *Forestus*, in *Lib. 10. Obs. 24.* informs us, that a mad Girl was cur'd of her Disorder by Ulcers arising in her Legs. And *Amarus Lusitanus*, in *Cent. 2. Obs. 47.* informs us, that Melancholy was produc'd by stopping an Ulcer.

THE CURE.

As the Method of curing every Disorder consists in checking and removing its Causes, and as from a Knowledge of these Causes curatory Intentions ought to be form'd, and proper Remedies selected, so I think we ought to proceed in the same manner with the Diseases of the Mind. Now we have already demonstrated, that the proximate and immediate Cause of a Delirium, whether of the low and timid, or of the bold and furious Kind, consists in an impetuous Motion of the Blood and Humours to the Head, and their languid, or too much accelerated Circulation thro' the Vessels of the Brain; a Circumstance immediately succeeded by the various Effects of a disturb'd and irregular Fancy; hence the principal Intentions, to be pursued both in preventing, and alleviating these Disorders, are,

1. To derive the Blood too copiously collected in the Brain to the inferior Parts; and to procure its free and equable Circulation thro' the Head and the whole Body.
2. To remove the material and occasional Causes which pervert the natural Temperature of the Blood, and occasion its Translocation to the Head; and to restore the usual, natural, and salutary Excretions to their due and proper Condition.
3. To restore the natural systolic Force to the Vessels and Membranes of the Brain.

But it must be observ'd, that the Antients, and especially the Greeks, were far more dexterous, not only in distinguishing, but, also, in curing these Disorders, than the Moderns; not only because, in consequence of the Variety and Abundance of Deliriums raging in their Country, they could acquire greater Experience, but, also, because they had a better Opportunity of investigating the Force and Virtues of their Remedies. This is sufficiently certain from the Instance of *Hippocrates* alone, who, in his Book *de Infantia*, gives the true Cause of Deliriums: "After, says he, the Brain is suddenly heated by the Effervescence of the Blood in the Veins, the Patients have frightful Dreams, the Face and Eyes become red, and the Mind meditates some Mischief; but when the Blood is again dispers'd to the Veins, these Symptoms cease." For the Cure of the Disorder, he afterwards orders Venesection, drinking of Water, and a Potion of white Hellebore: Nor do the other antient Physicians recede from this highly simple Method of Cure; for, if we carefully look into their Works, we find them prescribing, with great Success, the most

simple Remedies for the Removal of these terrible Disorders; such as Venesection, Baths prepared of sweet Water, the drinking of pure Water, and mineral Springs, Milk and Whey, and gentle or strong Evacuations; according as the State of the Patient required.

But among all the Remedies by the Antients recommended in such Cases, none is more celebrated than Venesection; concerning the Use and Advantage of which, there is a celebrated Passage in *Alexand. Trall. Lib. 1. Cap. 16.* "Melancholy, says that Author, is generated by a Redundance of Blood: If the Patients are of a lean Habit of Body; if they are in the Vigour of their Age; or if the menstrual, or hemorrhoidal Discharges are suppressed; if the Face is much more red, and the Veins more turgid, than in a natural State; in this Case, liberal Venesection is, with all Expedition, and above all things, to be instituted, if the Patient's Strength admits of it: But, if the Patient's Strength does not admit of a large Evacuation, a sufficient Quantity is to be taken away, at two or more different times. But if the Blood is, as it were, impacted in the Brain, we are boldly to open the frontal Vein." But he subjoins a necessary Caution, that this should not be done without a previous Evacuation of the Body: "For, says he, if any Attempt is made upon the Head, before the whole Body is purged from its recrementitious Humours, more Injury than Good is done; since by this means a greater Quantity of Matter is attracted to the Head."

Aretæus, also, highly extols Venesection in the Cure of Melancholy, and lays down useful Cautions, with respect to its Institution: "If, says he, the Blood is thick, bilious, and black, a Vein is to be open'd, and the Operation repeated, not on the same, but on the subsequent Days, till a sufficient Quantity of Blood is taken away. But the Quantity of Blood to be taken away in one Day is to be determined by the Strength of the Patient. In the mean time the Body is to be liberally nourished, that the Patient may be able to bear a future Evacuation. If the Patient is lean, and deficient in Blood, a small Quantity is only to be evacuated, that the Strength may be sensible of the Evacuation, but not injured by it: Hence, if too large a Quantity of Blood is evacuated, Nature, for want of a due Supply, will be weaken'd." Nor is there any Species of Remedy more efficacious and necessary, for removing the most obstinate Disorders of the Mind, according to *Cælius Aurelianus*, in *Lib. 1. Cap. 5.* where, besides Phlebotomy, he, at the same time, highly extols Scarification, and the Application of Leeches, in the following manner: "When the Disorder is in its Height, the Head is to be shaved, and Cupping, with Scarification, used." *Galen*, also, recommends Venesection, in that Species of Melancholy which has its Seat in the Veins, and affects the whole Body; whereas, on the contrary, the *Arabians*, in curing it, recommend Venesection in particular Veins, such as the Jugular, Frontal, or Temporal Veins; or use Cupping with Scarification between the Shoulders; or open the hemorrhoidal Veins, by means of Leeches.

Some celebrated Physicians of the last Age, as *Fernelius*, *Riverius*, *Hieronymus Mercurialis*, *Hornius*, *Sylvaticus*, *Joannes Fortis*, and *Ballonius*, after having used the same Remedy, not only for preventing but, also, for removing these Disorders, unanimously affirm, that it is of all others the most efficacious; and from my own Experience I can affirm, that Venesection is justly to be reckon'd among the most valuable Remedies for these Disorders; only with this Caution, that, where there is a Redundance of thick and grumous Blood, a Vein is first to be opened in the Foot; and, a few Days after, in the Arm; then in the Head, or in the Neck, let the Jugular Vein be cautiously open'd, or with a Straw let the Nostrils be irritated to a Discharge of Blood. And, last of all, it is expedient to open the Frontal Vein with a blunt Lancet, for fear of injuring the Pericranium, after having applied a Ligature about the Neck, in such a manner as to render the Veins of the Face tumid.

But there were other Remedies highly extolled by the Antients for their singular Efficacy, both in Melancholy and Madness, the most considerable of which were Baths of warm Water, in which the Patient was either wholly, or only as far as the Præcordia, immersed; and Semicupiums, and Baths for the Feet: Thus *Alexander Trallian*, in *Lib. 1.* informs us, "That Baths of sweet Water are, above all other things, beneficial to melancholic Patients: But the Patients must remain long in the hot Bath, and even sit for a long time in it, if it is in the Summer." *Aretæus*, also, in *Lib. 7.* orders melancholic Patients often to use Baths naturally hot, "For, says he, a Softness and Relaxation of the Flesh greatly contribute to the Remission of the Disorder; for the Flesh of melancholic Patients is dry and tense." Among the Methodic Sect, *Prosper Alpinus*, in *Med. Egypt.* informs us, that melancholic Patients have been perfectly cured by warm Baths dropping on all the Parts of the Body, but especially on the Sutures of the Head. The Antients, in like manner, prescribed Baths for the Cure of Madness, as we find from *Cælius Aurelianus*; who, to maniac Patients, greatly recommends the Use of mineral Waters, such as those of the nitrous Kind, especially if they have not a fetid Smell, capable of injuring the Membranes of the Head. *Galen*, also,

also, in his Book *de Locis affectis*, Cap. 9. informs us, that he cured many melancholic and mad Patients, by Baths of tepid Water.

But, that Baths are highly efficacious in the Cure of these Disorders, is sufficiently obvious, if we but attentively consider their Method of acting. The Paroxysms of Madness, which, at certain times, seize Persons of atrabilarious Constitutions, are hardly owing to any other Reason, than that, by the violent Constriction of the fibrous and nervous Parts in the Surface and Extremities of the Body, the Blood is impetuously carried to the superior Parts. Hence *Hippocrates*, in *Secl. 1. Aph. 56.* informs us, that, in atrabilarious Disorders, Translations of the Humours from one Part to another are dangerous, since they either prognosticate a Palsy, Convulsions, or Madness. Now, as moderately warm Water, by softening and relaxing the hard and constricted Parts, especially in the Extremities, not only diminishes and averts the Impetus of the Blood from the Head, but, also, by enlarging the Vessels, derives the Humours from the Head to the inferior Parts, so that an equable Circulation of the Humours through the whole Body, and especially through its Extremities, being restored, the Body becomes perspirable, it is not to be doubted, but, in Melancholy and Madness, great Relief is to be expected from warm Baths.

As for the best Method of preparing Baths, it is obvious from what has been said, that light and subtile Waters, such as Rain and River-waters, are far more proper for answering the above-mentioned Intention, than hard and fountain Waters; and this seems to be the Reason why the hot mineral Waters, which, besides their Fineness, contain a subtile alkaline Mineral, such as these of *Embsen* and *Teunacen*, both internally and externally used, are found far more effectual for removing these Disorders of the Head, than any others. But, if light Waters cannot be had for Baths of this kind, the hard and fountain Waters are to be corrected with Wheat, and its Bran, Barley, Mallows, Linseed, and Marshmallow-roots, tied up in a Bag. Some, for the same Purpose, mix Milk with the Water, or add a sufficient Quantity of Pot-ash.

These Baths are by no means to be used too hot, but only tepid, or moderately warm. But that the Energy of these Baths for removing such Disorders may be the more certain and infallible, and that the Blood stagnating in the Veins of the Head may be the more effectually derived to the inferior Parts, it is expedient, that, before the Patient enters the Bath, his Head should have cold Water poured upon it, or be cover'd with a Cloth dip't in cold Water. That this Method was known to *Celsus*, we find in *Lib. 6. Cap. 18.* where, before the Patient's Body is immersed in the Bath, or in Oil, he orders cold Water to be pour'd upon his Head. And in *Lib. 1. Cap. 4.* he tells us, that "Nothing is so beneficial for strengthening the Head, as cold Water, which is to be longer poured upon the Head, than upon the other Parts; or the Head is to be daily plunged in a large Vessel full of cold Water." *Aretæus* was of the same Opinion, who tells us, if the Patients are mad, he orders cold Water to be poured upon the Head. The Reason of this Practice is obvious; since such is the Force and Energy of Cold, that, by penetrating to the Membranes and Vessels of the Brain, dilated and weakened by the stagnant Blood, it so constricts and corroborates them, as to promote a more free and easy Discussion of the Humours stagnating in them.

Having consider'd Baths, we now come to take a View of other Remedies; none of the least considerable of which are Purgatives, which, by the Antients as well as the Moderns, were always highly esteemed, for removing these Disorders of the Mind. But as Purgatives operate in various manners, since some are mild, and others drastic, it is expedient to specify such of them as best contribute to the Removal both of Madness and Melancholy: But it is agreed upon among skilful Physicians, that the mild and gentle Purgatives, such as Manna, Cassia, Rhubarb, Agaric, Sena-leaves, Polypody of the Oak, Cream of Tartar, vitriolated Tartar, and the neutral Salts of mineral Waters, used in various Forms in Madness and Melancholy, especially when arising from the hypochondriac Disorder, and a Stagnation of Blood in the Intestines, and Ramifications of the Vena Portæ, are preferable to those of a more acrid and drastic Kind, on account of their more safe, gentle, and less tumultuary Operation, especially when they are taken in Decoctions or Infusions, not all at once, but at repeated Intervals, so as to operate in an alterative manner.

Indeed, if we look into the Writings of Physicians, and especially of the Antients, we find them recommending both white and black Hellebore, tho' possessed of a subtile and violent Acrimony, as the most powerful Specifics for removing Melancholy and Madness. Thus *Hippocrates*, in his Book *de Insomniis*, in order to prevent Madness, prescribes Purgings with white Hellebore, and afterwards a fit and proper Regimen. And in his first Book *de Dieta*, he thinks Purgings with white Hellebore highly beneficial in melancholic, timid, and dejected Patients. Of the same Opinion is *Celsus*, who in *Lib. 3. Cap. 18.* informs us, that Melancholy is greatly alleviated by

purgings with white Hellebore; and if this Medicine once exhibited does not prove effectual, he orders it to be repeated at proper Intervals. But tho' the Antients almost always used Hellebore, Elaterium, and other drastic Purgatives, yet it is probable, they were induced to this Practice by a want of more mild and gentle Medicines. Besides, it is probable, as *Galen*, in his Book *de Articulis*, insinuates, that they so frequently used drastic Purgatives, because they were acquainted with safe Preparations thereof. But it is to be lamented, that Time has destroy'd a great many of their Works: Of this *Hippocrates's* Book *de Hellebora* is a sufficient Proof; since only the Beginning of that Work is preserved.

Besides, if we carefully consider those Passages of *Hippocrates*, and the other Founders of Physic, where, in these Disorders, Purgings by Hellebore is recommended, we find that they only exhibited this Medicine in such a manner, with such a Vehicle, and in Conjunction with such other Medicines, as corrected and obtunded its Acrimony, so as to render its Operation not strong and drastic, but mild and gentle: Thus, according to *Dioscorides*, in *Lib. 4. Philonides*, a Native of *Enna* in *Sicily*, described a particular Preparation and Regimen, as previously necessary to the Exhibition of Hellebore; but that Work has not reached our Hands. Various Instances confirming this may be found in the Works of *Hippocrates*, who, in his Book *de Dieta*, orders Purgings by white Hellebore, after the Use of Fomentations, and the Observation of a proper Regimen. In his Book *de Veratro*, he informs us, that, before the Use of white Hellebore, the Body is to be moisten'd by copious Aliments, and Rest. And in *Lib. 6. Epid.* he orders the Body to be prepared for its Exhibition by Baths and Aliments. For the same Purpose he, also, order'd a sufficient Quantity of Asses Milk to be drank, both before and after the Use of drastic Purgatives.

But since it is well-known, that not only drastic Purgatives, but, also, arsenical Poisons, may, without any Prejudice to Health, be exhibited, if the Body is previously render'd sufficiently moist, and prepar'd by demulcent, nutritive, and oleous Aliments, and Preparations of Milk, or if such Substances are taken after the Exhibition of such Poisons, we may easily be convinc'd, that the Antients were not faulty in exhibiting drastic Purgatives; since, by correcting and obtunding their Force, they reduced them to a mild and gentle Quality. This Method was known to *Alexander Trallian*: "For, says he, in Melancholy, gentle Purgings, a moistening Diet, and the Interposition of the Bath, are necessary; for those who prescribe hot Antidotes and Purgatives, especially Hiera, render their Patients more furious and mad; since, by that means, the Blood becomes more dry and acrid. After purging, therefore, with such simple Medicines as do not heat the whole Body, it is expedient to use a moistening Diet; and I have often cured Patients labouring under Melancholy, rather by Diet and Regimen, than by Medicines."

Reason, also, confirms the Truth of this; for in Madness, where all the Parts of the Constitution are in a preternatural Tumult and Commotion, there is no manner of Indication for an additional Irritation of the nervous System. Nor do the atrabilarious, or melancholic, glutinous, thick, acid, and saline Humours, lodged in the Vessels, call for acrid Purgatives; but when they are diluted, corrected, and rendered fit for an Evacuation, they are easily stimulated to an Excretion. And, certainly, greater Caution is not necessary in the Exhibition of any Medicine, than of Purgatives; for, as *Joannes Heurnius*, in *Lib. 3.* has justly observed, Temerity is highly culpable in the Use of important Medicines; since, by an Oversight, we may do an irreparable Injury, instead of a grateful Service. Hence *Plato* wisely observed, that chronical Diseases, among which he classes Melancholy, had certain Periods, before they arrived at which, they were rendered worse, if they were irritated by Medicines. *Hippocrates* has, by his own Conduct, taught us the Necessity of Caution in the Exhibition of Purgatives; since, in attempting the Cure of *Democritus*, he would not allow him to use Hellebore, except in his own Presence.

Since, as we have already observed, the Antients had a safe and innocent Method of exhibiting Hellebore, to us unknown, it is expedient to say something upon this Subject. Among the later Physicians, there were various skilful and ingenious Authors, who spent much Time and Labour in finding out this Method of the Antients; and, among the rest, *Lindenius*, who, in *Coll. MS. ad Praxim Chym.* where he commends a Preparation of Hellebore, has given us a particular Method of correcting that Medicine; and asserts, that by this means he has cured, not only a beginning, but, also, a confirmed Madness. For this Purpose, that Author took between half a Dram and a Dram of white Hellebore; this he boiled in Wine, till it became soft; when thus boiled, he took it out, and, throwing away the Wine of the first Decoction, he added new Wine to it, and left it for a Night in a warm Place. Then he expressed the Wine of the Infusion, sometimes gently, and sometimes strongly, according as he intended the Medicine should be strong or weak; and of this expressed Wine he exhibited one Dram, which, he says, operated sufficiently well.

My Opinion of this Correction of Hellebore is, that Physicians ought rather to abstain from drastic Medicines, by whatever means corrected, and deprived of their acrid caustic Quality; since they may expect far happier Effects from a judicious Use of the gentle Evacuants before enumerated. But, if any one is resolved to use Hellebore, he is not to be dissuaded from it, provided it is duly prepared; for 'tis certain, that the deleterious Quality of drastic Purgatives, which consist in their highly subtle acrid Salt, may, by means of long boiling, be totally destroyed: And when, by boiling with Water or Wine, the subtle Acrimony of the Hellebore is extracted, 'tis certain that it is deprived of its drastic Quality.

Having thus consider'd Purgatives, we now come to consider mineral Waters, or pure Spring-waters, which are highly efficacious in Melancholy and Madness; for since Madness generally draws its Origin from Melancholy, and Melancholy from the hypochondriac Disorder, and the hypochondriac Disorder from impure and peccant Fluids, slowly circulating thro' the Intestines and Viscera of the lower Abdomen; since, in order to remove Obstructions of the Viscera, the Circulation of the Blood ought to be rendered free and easy; and since both antient and modern Physicians have reposed great Confidence in the cautious Use of mineral Waters, whether of the hot or cold kind, 'tis obvious that great Relief is to be expected from these, in removing Melancholy and Madness. And I myself frankly declare, that I would not choose to be a Physician, if I was ignorant of the Virtues of mineral Waters; for, as the Business of the skilful Physician, in a great measure, consists in preventing and curing chronical Disorders, so nothing effectual can be done in these without a prudent internal and external Use of mineral Waters: For which Reason it is necessary, that the Physician should be well acquainted with the Virtues and Ingredients of these Waters.

If, therefore, we carefully investigate the Nature of these Waters, we cannot help admiring their peculiar Virtue, in answering various Intentions in almost all Diseases; for being impregnated withan highly pure, alkaline, neutral, and mineral Salt, if they are exhibited in a due Quantity, they not only change the peccant Humours, incide such as are thick, render such as are glutinous fluid, and remove the Obstructions of the Vessels, but, also, exert their happy Influence on the Solids, since they relax and soften the hard and tense Fibres, corroborate such as are weak and tender, stimulate the Emunctories whose due Tone is lost, and, consequently, promote all the salutary Excretions, whether by Stool, Urine, Perspiration, the Menstrues, or the Hæmorrhoids.

Of similar and almost equal Virtues with mineral Waters are Asses Milk, and Whey of Cows and Goats Milk, duly prepared; The Virtues and Efficacy of these, in removing chronical Disorders, were not only extolled by *Hippocrates*, and the Antients, but, also, by the more modern Physicians; such as *Hieronimus Mercurialis*, *Riverius*, *Raymund*, *Joannes a Fortis*, *Baglivii*, and the celebrated *Boerhaave*. This I can, from Experience, affirm to be true, since chronical Disorders, which arise from a subtle and virulent Acrimony of the Humours, and which have their Seat in the weak and faulty nervous System, are rarely well cured, without a due and proper Use of Milk and Whey.

But, among all the various Classes of Medicines, I know none better calculated for removing the Causes of these Disorders, than Nitre depurated from its heterogeneous Parts; for its Use is so universal, as to extend to all Disorders, provided it be duly exhibited: But it is in a surprising manner beneficial in that Species of Madness which inclines to Melancholy; nor does it fail to produce a salutary Effect in Madness itself, since it not only corrects the bilious Acrimony of the Humours; but, also, stops the tumultuous Motions of the Solids, by allaying the preternatural Heat. 'Tis, therefore, to be lamented, not only that this Medicine was entirely unknown to the Antients, but, also, that its singular Efficacy, in the Cure of Disorders, is neither sufficiently known nor esteemed by the Moderns. But, among the Moderns, *Sennertus* and *Riverius* affirm, that Nitre, in Conjunction with a little Camphire, is a Specific in Madness.

Having thus enumerated the best and most general Medicines, approved of by the Physicians of all Ages, for the Removal of Melancholy and Madness, I shall now, from my own Experience, give my Opinion concerning some particular and specific Medicines, by some highly extolled for the Cure of these Disorders. Now, among vegetable Substances, the Herbs Baum, Betony, Vervain, Brook-lime, Sage, Wormwood, Flowers of St. John's-wort, and the Lime-tree, and Camphire; among animal Substances, Asses Blood dried, and exhibited in Drink; and, among mineral Substances, Preparations of Steel, Cinnabar, Sugar of Lead, together with the Calx and Tincture of Silver. But, tho' these Medicines are not to be totally rejected, but the Use of some of them accurately investigated, yet I shall not hesitate to affirm, that little Good is to be expected from them alone, unless both the remote and proximate Causes of these Disorders are previously corrected or subdued by the general Remedies before-mentioned.

Besides these Simples, there are, also, various compound Medicines highly extolled; to which belongs that, so much recom-

mended against Madness by *Riverius*, who looked upon it as an Arcanum of Importance. It is thus prepared:

Take of Baum-leaves, one Handful, cut them down into four Ounces of Spirit of Wine; then add half a Dram of prepared Pearls: Mix all together, and let two Spoonfuls be exhibited for a Dose.

This Medicine is not, in my Opinion, to be altogether condemned; and tho' I myself had never an Opportunity of making a Trial of its Efficacy, yet it deserves due Encomiums; since, by its means, I know many mad Persons cured by a Shepherd, who frequently prescribed it for that Purpose.

'Tis, also, to be observed, that a certain celebrated Physician of *Brunswick*, in Melancholy and Madness, successfully used a certain black Decoction, prepar'd, as I was told by an Apothecary, of Asses Blood, boiled with Baum-water and Wine-vinegar. Nor can I think this Medicine destitute of its proper Uses, since, besides the sedative Quality possessed by the Asses Blood, the Wine-vinegar is a considerable Discutient and Resolvent.

The Decoction of *Michaeli*, and his Essence of red male Pimpernel, are highly extolled against these Disorders; and that Author affirms, that he has a thousand times experienced the singular Efficacy of these two Remedies in Melancholy and Madness; but of the Truth of this Assertion I am not sufficiently convinced: But, in my Opinion, the Powder by Mr. *Charas*, describ'd in his *Pharmacop.* recommended against the Madness arising from the Bite of a mad Dog, and prepared of Baum, Vervain, Wormwood, Mugwort, Plantane, and Rue, is productive of happy Effects, both because it discusses the stagnant Humours, and corroborates the solid Parts.

Among chymical Preparations, to this Class belong Flowers of Antimony; the Use of which some Physicians highly extol, and appeal to Experience for the Support of their Assertion. Nor have I found this repugnant to my own Experience; for if tenacious, viscid, and bilious Humours, lodged in the Duodenum, are to be evacuated by Vomit, these Flowers, which, beyond the other Preparations of Antimony, contain a certain mild Sulphur, of an anodyne Virtue, produce happy Effects. As for the Medicines in which Opium is an Ingredient, we shall afterwards consider them.

But whether for preventing or curing these Disorders, no Remedy more justly deserves the Name of a Specific, than Motion and Exercise, duly adjusted and proportioned to the Strength of the Body; for, provided a due Degree of Moisture is not wanting in the Blood, Exercise, by resolving the viscid Humours, and promoting the free and easy Circulation of the Blood thro' all the Vessels, increases Perspiration; and, by that means, frees the Body from Sordes, and removes Obstructions; in consequence of which 'tis far preferable to all other kinds of Remedies.

Since 'tis both safer and easier to prevent Disorders, or guard against their returning Paroxysms, than to remove them when present, it is of great Importance both to the Physician and Patient, to be well acquainted with the most proper Measures of preventing these Disorders: For which Purpose 'tis, therefore, absolutely necessary, that we have a due Regard to the Redundance of the Blood, which is to be lessened by seasonable Venesection, especially about the Solstices and Æquinoxes, or by increasing the hæmorrhoidal or menstrual Discharges, or recalling them, if they are totally suppressed. But before Venesection, it is expedient, by some gentle Medicine, to purge off the Sordes of the Primæ Viæ; for, by this means, after the Vein is opened, the Distribution of the Blood thro' all the Parts of the Body will be the quicker, in consequence of which it will be the better depurated by Perspiration.

Nothing, also, is a more powerful Preservative against Melancholy and Madness, than a due Moderation and Subjection of the Passions; which will be easily obtained, if we take care not to indulge ourselves too far. Vain Desires, therefore, capable of disturbing the Mind, or laying a Foundation for Speculations or anxious Fears, are carefully to be suppressed. Profound Thoughts, intensely fixed upon one Object, and abstruse and long-protracted Speculations, are, also, to be carefully avoided. Venery must, also, be very moderately used, Solitude must be shun'd, and the Mind be diverted with grateful and agreeable Company.

Nor is it safe liberally to use every Species of Aliment, but only such as is of easy Digestion, and not offensive to the Stomach by its Bulk. Hence Patients subject to Melancholy or Madness ought carefully to abstain from smoked Fleshes, whether Pork or Beef; from Shell-fish; from Fish of an heavy and noxious Quality; from vaporous Substances, and Aliments prepared with Onions and Garlick; for all these, by loading the Stomach, and generating a thick Blood, prove highly injurious. But, above all, the Patient is to take care to eat no more than is sufficient for the Support of Nature, tho' not the Satisfaction of Appetite; for we generally observe, that thro' preternatural Voracity, to which melancholic Patients are highly subject, on account of the Redundance of acid Humours in the Primæ Viæ, very unhappy Effects are produced.

The Drink must, also, be duly chosen, since every Liquor is not found beneficial to every Patient. It is, however, to be observed, that the lightest, such as small Beer, or pure cold Water, is to be made Choice of. Among Wines, a small Quantity of rough White-wine, such as the *Moselle* Wine, is to be allowed at Meals, to melancholic Patients, since, by refreshing their Bodies and Minds, it has a Tendency to render them chearful. But I have always observed, that sweet and strong Wines, such as the *Hungarian*, *Italian*, and *French* Sacks, are highly prejudicial, both to melancholic and mad Patients. Nothing, also, is more injurious, or contributes more effectually to the Generation of Madness, than the Use of such spirituous Liquors, or of large Quantities of cold Liquors, after a violent Sally of Passion; for which Reason those who regard their Interest, ought, at such times, to abstain from such Liquors.

As the excessive Smoking of Tobacco is unfriendly to Digestion, and not only generates thick Humours, but, also, throws them into preternatural and tumultuous Commotions, it is highly prejudicial to melancholic and maniac Patients; but a moderate Use of it may, in my Opinion, be allowed, in order to preserve the Body soluble.

Changes of Air, and travelling from Climates excessively cold or hot, to those of a more temperate Air, are excellent Preservatives against these Disorders; since they not only correct erroneous and perverse Ideas; but, also, in consequence of the Exercise to be used, prevent Obstructions of the Viscera, and by that means preserve an equable Circulation of the Blood thro' the whole Body.

PRACTICAL CAUTIONS AND OBSERVATIONS.

Since I have frequently seen Madness produced by a preposterous Cure of acute Fevers, especially of the bilious Kind, accompanied with a Phrenitis, by means of Opiates, and too refrigerating Medicines, I think it is the Duty of every good and skilful Physician, not only to treat these choleric Fevers in a prudent and rational manner, but, also, in their Decline, to prescribe an exact Regimen, and a due Moderation of the Passions; otherwise a Phrenitis easily degenerates into a chronical Madness. Obstinate intermitting Fevers require the same Caution; for, when these are ill treated by reiterated Venesections, or often repeated acrid Purgatives, or when they are too soon checked by Astringents or Opiates, it is certain from Experience, that Melancholy, the hypochondriac Disorder, and Madness, have succeeded. Physicians ought, therefore, to abstain from such, lest they should, by their Management, bring on these terrible Disorders.

Tho', in Deliriums, Venesection is highly useful, yet it ought to be varied according to the different States of Patients, both with respect to the Place, the Quantity, and the Time. Thus, when Madness seizes plethoric, and choleric Patients in the Vigour of their Youth, reiterated Venesections, interposing, at the same time, frequent Purges of corrected Hellebore, are not prejudicial, especially if after them we repair and recruit the Strength by cardiac, corroborating, and anodyne Sedatives. When, on the contrary, by long Abstinence, protracted Watchings, and continual Evacuations, the Strength and temperate Humours of mad Patients have been exhausted, they are more weakened by Venesection; for which Reason, their Situation rather calls for nutritive Substances, and gentle Analeptics.

As for Venesection in the Forehead, it is to be observed, that it is never useful in the Paroxysm, when, by reason of the spasmodic Stricture of the inferior Parts, the Impetus of the Blood is directed to the Head; but rather prejudicial, by attracting a greater Quantity of Humours thither. But Venesection is more advantageously and safely used, either when the Primæ Viæ are duly purged from Sordes, or when, after the Cessation of the Spasms, there is a considerable Remission of the Disorder. This useful Caution I learned from attempting the Cure of an Hemisrania by the same Method; since, without any Success, I have known the frontal Vein opened more than ten times. Of this Opinion, among the ancient Physicians, was *Celsus*, who, when treating of the Cure of Deliriums, has this remarkable Observation: "To exhibit Medicines, says he, when the Patient is in the Height of Madness, is an injurious Practice, because by that means the Fever is, at the same time, increased. In this Case, therefore, the Patient is only to be kept temperate; but, when his Situation admits of it, we are, with all Expedition, to attempt his Relief. *Aesclepiades* affirmed, that bleeding mad Patients was, in a manner, equivalent to killing them, because all Madness was accompanied with an intense Fever, and Blood could not be taken with Advantage from them, except in the Intermission of that Fever."

Since, according to *Hippocrates*, in *Self*. 6. *Aph*. 56. melancholic Patients are subject to dangerous Translations of the Humours to the Brain, which are sometimes succeeded by Apoplexies, Epilepsies, Blindness, or Madness, diligent Care is to be taken not to procure such fatal Translations and Congestions of the Blood to the Head, which are principally brought on by violent Perturbations of Mind, an immoderate Use of strong Wine during the Dog-days, or by every Medicine, which, by throw-

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ing the Fluids of the Body into too violent Commotions, is capable of impairing the Strength.

But such Translations are most powerfully occasioned by drastic Purgatives, which, by stimulating the Intestines to violent Spasms, propel the Blood to the superior Parts. Hence, in the Exhibition of Purgatives, we are to observe the Rule of *Mesue*, which runs thus: "In melancholic Disorders, we are not once, or twice, but at repeated Intervals, to make so small an Evacuation, that Nature may govern the Evacuation, and not the Evacuation Nature. But it is expedient to keep the Body always soluble; and, if it is not so, it is to be rendered so by a Clyster, or every Week a gentle Evacuant."

In Virgins arrived at Maturity, and rendered mad by Love, Marriage is the most efficacious Remedy; the incomparable Virtues of which, in curing this Species of Madness, are not only confirmed by Reason, but, also, adverted to by *Hippocrates*, who, for that Reason, ordered such Patients to be married as soon as possible; for, says he, if they conceive, their Madness is removed; which, I believe, is sufficiently agreeable to Experience.

In Madness produced by the Bite of a mad Person, or Dog, we are not to confide in the external Specifics, so much extol'd by *Galen*, *Actius* and *Ruffus*; such as burnt Crabs, or their Ashes mix'd with Theriaca, and the Root of the *Cynobator*, the Ash-colour'd Liverwort, or the Liver of the mad Dog, applied externally; but, after a deep Scarification of the Part affected, we are to apply a large Cupping-glass; or, having cauteriz'd the Part affected pretty deeply with an ignited Iron, we are to promote a Suppuration.

Since 'tis certain from Experience, that maniac Patients have been greatly reliev'd by an Itch so loathsome as to resemble an Elephantiasis, and that a Madness arising from the Cure of Ulcers in the inferior Parts, has been remov'd by Trepanning, I think it would, in such Cases, be highly expedient to make Fontanels and Ulcers, with a potential Caustery about the Spine of the Back.

Vesicatories are so far from being beneficial in the Cure of Madness, that they rather augment the Disorder; for the caustic Salts of the Cantharides, convey'd to the Blood thro' the Pores, by proving an additional Stimulus to the nervous Membranes, and the Dura Mater, by their spasmodic Stricture, increase the Motion of the gross and bilious Blood thro' the Head, and all the other Parts of the Body; whereas such Medicines ought rather to be us'd, as, by their mild anodyne and antispasmodic Virtues, soothe the intense Constrictions of the nervous Parts, and check the tumultuous Motions of the Humours.

But tho' these sedative and anodyne Medicines are of great Importance and Efficacy in removing Madness, yet we are not to refer to this Class Opiates and Narcotics, and for that Reason exhibit them, since these, by stupefying the nervous Fibres and Membranes, and especially those of the Brain, lessen the Paroxysms of the Madness, and bring on another Extreme, which is unaccountable Stupidity and Folly. But, if any Relief is to be expected from Anodynes, such of this Class are to be chosen, as are beneficial in an Epilepsy, the immediate Cause of which consists in a spasmodic Stricture of the Dura Mater: Of this kind the most considerable are Castor, the Shavings of Elk's Hoof, of the human Scull, and Hartshorn philosophically prepar'd, the Roots and Seeds of Piony, the antiepileptic Powder, Valerian-root, the anodyne mineral Liquor, the Waters prepar'd from the Flowers of Lily of the Valley, the Lime-tree, and Cowslips, all which may be confided in, as safe and approved Medicines.

In *Poland*, upon cutting of the Plicæ of the Hairs, in a Disease well known in that Country, I have known not only violent Disorders of the Head; but, also, Madness, produc'd. In this Case, Washing the Head twice a Day with a Decoction of the Club-moss, is highly recommended, because by this means 'tis said the Eruption of the peccant Matter will again appear. A Liniment of Club-moss, highly useful for this Purpose, is describ'd in *Miscell. Nat. curios. Decad. 1. an. 2. Obs.* 54.

In a Phrenitis, which is, as it were, a particular Fever of the Dura Mater, in which its increased Elasticity and systaltic Force produce a preternaturally brisk and tumultuous Motion of the Blood, and nervous Fluid, besides Preparations of Nitre exhibited internally, mild and anodyne Animals, such as Hens and Pigeons, cut up alive, are found to produce happy Effects, if applied to the shaved Head, since their mild Exhalations, by relaxing the too much constricted Fibres, greatly contribute to restore their natural Tone and Motions. *Frederic Hoffman*.

MELANCHOLIA.

Melancholy is by Physicians call'd that Disorder, in which the Patient is long and obstinately delirious, without any concomitant Fever, and with his Mind almost perpetually and intensely fix'd upon one Object.

This Disorder arises from that Malignity of the Blood and Humours, which the Antients call'd black Bile; and, on the contrary, the same Disease beginning in the Mind soon generates black Bile in the foudest Body.

'Tis, therefore, necessary briefly to describe the Nature of this Disorder, the Accounts of which are esteem'd so obscure, as to lay a Foundation for a groundless and unjust Charge against the Antients, for their Neglect in a Disease of such Importance.

If in the whole Mass of Blood the more fluid and moveable Parts being dissipated, they leave the more immoveable Parts united, then the Blood will be thick, black, pinguious, and terrestrial. Blood of this Quality and Condition we shall call an *Atrabiliarious Humour*, or *Melancholic Juice*.

The Causes of such a State and Condition of the Blood are, every thing which expels the more moveable and fluid, and fixes the other Parts of the Blood; violent Exercise of the Mind employ'd almost Day and Night on one and the same Object; obstinate Watchings; violent Commotions of Mind, whether in the way of Mirth, or Sorrow; painful and laborious Exercises of Body often repeated, especially in a highly dry and warm Air; immoderate Venery; austere, hard, dry, and terrestrial Aliments, us'd in Conjunction with a State of Rest and Laziness; Liquors of a similar Nature. Of this kind are the Parts especially of hard and old Animals indurated either by Smoke, the Air, or Salt; unripe Fruits; farinaceous Substances, not fermented; astringent, coagulating, fixing and refrigerating Medicines; slow Poisons; and other Things of a like Nature; such burning Fevers as continue long, recur often, and are remov'd without a laudable Crisis, and without the Use of Diluents.

When this Disorder, produc'd by the Causes already enumerated, equally infects the whole Mass of the circulating Fluids, it will forthwith produce some sufficiently conspicuous Phenomena, which are generally these following: The Colour of the external and internal Parts becomes first pale, then yellow, then dark brown, then livid, and, last of all, black, with Spots of a similar Colour. The Pulse becomes slow, the Patient is intensely cold; the Respiration is languid; the Circulation in the large Blood-vessels is good and laudable; but that in the lateral Vessels is languid and peccant. Hence all the Humours being inspissated, their Secretion and Excretion are less and slower, and their Consumption and Dissipation less considerable; the Patient's Appetite is impair'd, he becomes extenuated, dejected, fond of Solitude, and subject to obstinate and violent Commotions of Mind; in other respects he is in an indifferent Condition; he is averse to Motion, but perseveres with Resolution in his Pursuit of any Study or Acquisition.

This Disorder has, for its material Cause, the Earth, and the inspissated Oil, of the Blood, united and compacted together, which the more they are depriv'd of the liquid, mild and diluting Parts, and the more they are condensed, and tenaciously mix'd, or the longer they have continu'd in this State, the more terrible the Effects of the Disorder will be, and its Cure the more difficultly obtained.

Hence 'tis obvious, what the diagnostic and prognostic Signs of this Disease are; hence, also, the most rational Method of Cure is to be deduced.

For as soon as the Disorder discovers itself by its first Beginnings, its Cause, or any of its Effects, a continually varied Series of Objects is to be laid before the Patient's Mind, without letting him know for what Reason. But such Objects are to be chosen, as excite Dispositions directly opposite to that which predominates and reigns in the Patient: Sleep is to be procured by diluting, demulcent, paregoric, and narcotic Medicines, and by keeping the Patient in a State of Rest. Persons labouring under Melancholy ought, also, to live in a moderately warm moist Air; the Aliments they use should be light; the Liquors they drink, should, like the sound and laudable Humours of the Body, be recent, mild, and laxative, by their gently saponaceous Quality; and the Use of these is to be persisted in for a long time. Such Medicines as dilute, correct Acrimony, resolve the oleous and terrestrial Parts of the Blood, relax the Vessels, and, by their gently stimulating Quality, expel the peccant Matter, are to be exhibited; such as the Juices of sufficiently ripe Summer Fruits, Preparations of Honey, Pot-herbs, and Broths prepared of them, and mineral Waters. The most proper Drink is Ptisan, gently edulcorated with Honey. Such Things as produce the Disorder, are carefully to be abstained from.

But if the Matter of the Disorder is, by the Causes already enumerated, rendered more dense, tenacious, and incapable of Motion, it will necessarily be forced into the hypochondriac Vessels, as is obvious from the Nature of this Humour, the Situation and Condition of these Vessels, and the known Laws of Hydraulics. Hence it will gradually remain, be accumulated, and become stagnant there. In this Case the Indisposition is called the *Hypochondriac Disorder*, and affects the Spleen, Stomach, Pancreas, Omentum, and Mesentery.

Hence it there produces a continual Sense of Weight, Uneasiness, and Repletion, especially after Eating and Drinking; a Difficulty of Respiration, in consequence of the Oppression of the abdominal Viscera; an Hindrance to the cystic and hepatic Bile, as, also, to the pancreatic, stomachic, intestinal, and mesenteric Juices, in their Generation, Secretion, Mixture, and Action on the Aliments. Hence the first Digestion becomes totally pec-

cant, and the Aliments are corrupted into a crude Acid, if they are Vegetables; but the Corruption is of the putrid alkaline Kind; if Animals, and of a rancid or oleous Nature. Hence arise Eructations, Flatulences, Spasms, Costiveness, Induration of the Faeces, a Jaundice more violent in Degree, than that before-mentioned: And, in this case, all the Symptoms are augmented, and rendered more terrible.

When the Disorder is thus inveterate, and discovers itself by the Symptoms last enumerated, both Expedition and Care are necessary in the Cure; otherwise the Disorder quickly assumes a malignant Nature; and this perplexing Circumstance is, if possible, to be avoided: If the Disease continues, it becomes incurable, and often mortal, as will afterwards appear; if, on the contrary, the laudable and easily moveable Humours are evacuated by Purgatives, the peccant viscid Juices remain in the Body, by which means the Disorder is rendered worse. If, also, the Disorder is treated with drastic, stimulating, and resolvent Medicines, the suddenly resolved Matter often becomes acrid, and, rushing impetuously into the tender hepatic Vessels, destroys them, and by that means produces various, and those incurable Disorders. Hence,

1. The Matter is to be rendered gradually moveable, investigating the Nature of its predominant Acrimony, and then exhibiting saponaceous Medicines possessed of an Acrimony, opposite to that of the Humour to be corrected. And the Use of these is to be persisted in, till the Weakness and Inequality of the Pulse, the Nausea, or Tenesmus, the Uneasiness and slight Fever, are Proofs that the Matter is moved. Then,

2. When the Matter is thus mov'd, it is forthwith to be expelled by a gentle laxative Purge, a Clyster of the same Nature, Whey, mineral Waters, or other Things of a like Nature.

But if this Matter, already fixed and compacted, has remained long there, it begins by means of its Stagnation, the Motion of the Viscera, and the Heat of the adjacent Parts to assume an acrid and corrosive Quality; fresh Matter is continually accumulated, because an Obstruction is already formed, and the same Causes continue to act. Hence, in consequence of its increased Quantity, its acrimonious Quality, and its continual Motion, it distends, corrodes and corrupts the Vessels. Hence a similar Destruction of the Spleen, Stomach, Pancreas, Omentum, Mesentery, Intestines, and Liver, will happen. This consequently greatly increases all the beforementioned Symptoms; but, principally, in consequence of the continual Reception of a putrefy'd Vapour into the Veins, it disturbs and disorders all the Functions, and especially those of the Brain. In this case, the Disorder is called *Atra Bilis*.

When this is discovered by the Signs already enumerated, the Matter is not, without the greatest Art and Caution, to be attenuated, mov'd and eliminated, on account of perplexing Circumstances of the last Importance, and the Easiness of bringing on so acrimonious a Condition of the Matter as can hardly be corrected or subdued. For this Reason let the Patient's Aliments be opposite to the particular Acrimony of the predominant Humour. His Food ought, also, to be always gently resolvent, stimulating, purgative, and such as after Digestion leaves few Faeces. Let his Drink be Ptisan, edulcorated with Honey, the Juices of ripe Fruits, or Whey. Let his Exercise be gentle, but as continual as possibly may be. Let him be kept in a very moderate Heat, and take much Sleep. Baths, also, Fomentations, Clysters, and Drinks, are, for the Cure of this Disorder, often prepared of such Things, as, without any acrimonious Quality, by diluting, resolving, and absterging, attenuate the Matter, and slowly and gently eliminate it thro' those very Emunctories and Passages previously pointed out by Nature. But we are always to have a due Regard to the particular Nature and Quality of the Acrimony.

But when this Matter has already acquired an high Degree of Acrimony, and the Viscera are considerably corrupted, if, during the Action of the Causes before enumerated, it is mov'd, either by muscular Motion, the Heat of the Sun or Fire, acrid, and too copious Aliments, acrid and drastic Medicines, which produce an Effervescence with the Acrimony of the Humours, Poisons which operate in a similar manner, or some violent Diseases, then the Acrimony being rendered greater, more moveable, and active; it breaks, corrupts, putrifies, and resolves its Vessels; and, in Conjunction with the black Bile, converts them into putrid Impostumations. This is call'd *Bilis Atra Turgens*, or a Redundance of the black Bile. If this Species of Humour is attenuated in its Vessels, convey'd towards the Liver, distributed to the corroded Ramifications of the Vena Cava, and introduced into the Heart, it produces highly terrible Disorders; for, if it partakes of an acid coagulating Nature, it produces Polypuses of the Heart, Lungs, Aorta, and the Carotids, and even Death. If it proceeds to the Brain, it gives Rise to Apoplexies, Palsies, Catalepsies, Epilepsies, Deliriums, and Madness of such bad kinds, as to be almost incurable. It produces surprising Changes in the nervous System, and brings on violent Fevers, which soon putrify all the Parts. If, on the other hand, it partakes of an alkaline putrifying Quality, it produces Gangrenes, which suddenly prove mortal, in those Parts to which it is convey'd. Hence, unless this Fomes, or Matter is extinguish'd and destroy'd, an infinite Number of Incurable

incurable Disorders will be produced in the whole Body, and in particular Parts of it. But if, in consequence of a Rupture of the Vessels of the Viscera, the discharged Matter is lodg'd in the Cavities of the Peritonæum, a surprising and insuperable Weakness arises; the acrid discharged Matter is putrefied and accumulated. Then a gangrenous Corrosion of all the abdominal Viscera happens, by which means surprising Phenomena are produc'd; such as a Tympanitis, and Death, attended with an insupportable Stench: But if, after it is mov'd, it is convey'd to the Liver, and thence thro' the corroded and weaken'd biliary Ducts to the Gall-bladder, and thro' the Ductus hepaticus and Ductus communis to the Intestines, it excites Vomiting, nausea, and atrabilarious Dysenteries, accompanied with Uneasiness, impetuous Efforts, Pains, and intolerable Corrosions. Hence arise Inflammations, Exulcerations and Putrefactions of the Intestines, Stomach, Oesophagus, Fauces, and Mouth. Hence are produced terrible Convulsions, and at last generally a gentle Death, which for the most part happens in a Gangrene, and consequently in an Indolence of all the Parts.

The Matter, thus mov'd and render'd active, is, together with its uncommon, and almost Pitch-like Tenaciousness, possess'd of an intensely acid Acrimony, which corrodes Metals, and ferments with Earth; or else of an Acrimony of an alkaline and saline, and highly corrosive, or which is worst of all, of an oleous and putrefactive kind; and 'tis necessary the Physician should know whence these various Species of Acrimony arise, how they may be known, and by what means they may be corrected and remov'd.

He who diligently adverts to what has been said, and carefully considers the Situation, Structure of, and Circulation in the Viscera, in which this malignant Humour is lodg'd, must easily perceive, that the *Turgens Atra Bilis*, or a Redundance of Melancholy, is a Disorder not to be cur'd without the greatest Difficulty. The principal Medicines capable of alleviating it are Diluters in Conjunction with Opium, and acrid Substances opposite to the predominating Acrimony.

Hence we may easily understand the Nature of Melancholy, and the hypochondriac disorder; for 'tis obvious, that, by a long protracted previous Dejection of Mind, the constricted Vessels of the abdominal Viscera must produce a Stagnation, a Change and an Accumulation of the *Atra Bilis*, which gradually increaseth, tho' the Body was but a little before perfectly sound; and that, on the other hand, this *Atra Bilis*, or Melancholy produc'd by physical Causes, produces a Delirium.

The Causes then evidently productive of Melancholy are observed to be,

1. All Things which fix, exhaust, or disturb, the nervous Fluid of the Brain; such as violent and sudden Frights, intense Thinking upon any Object, excessive Love, Watchings, Solitude, Fear, and hysteric Disorders.

2. Such Things as hinder and disturb the Generation, Reparation, Circulation, and various Secretions and Excretions of the Blood, especially in the Spleen, Stomach, Omentum, Pancreas, Mesentery, Intestines, Liver, Uterus, and hæmorrhoidal Vessels: So that, of consequence, Melancholy may be produc'd by the hypochondriacal Disorder; by acute Diseases ill cur'd, and especially a Phrenitis, and burning Fever; by an Excess of all the Secretions and Excretions; by such Aliments and Drinks as are cold, tenacious, terrestrial, tart, and astringent; by violent Heat long protracted and parching the Blood; as also by a stagnant, moist and cloudy Air.

3. A naturally black, hairy, dry, slender, and robust Constitution of Body; a middle Age, a quick, penetrating, and discerning Genius.

If this Disorder continues long, it produces Stupidity, Epilepsies, Apoplexies, Madness, Convulsions, Blindness, surprising Fancies, Laughter, Weeping, Singing, Sighs, Eructations, Flatulences, Anxieties; an Urine sometimes copious and limpid like Water, and at others highly thick; a Retention, Accumulation of the excrementitious Blood in the Vessels of the abdominal Viscera, and often a sudden Excretion of it; obstinate Costiveness; frequent Spitting of a thin Matter; and an incredible Ability of enduring Watchings, Hunger, and Cold.

This Disorder has often been cur'd by a supervening unseemly Itch, sometimes resembling an Elephantiasis; by numerous and large Varices; by a copious Discharge from the turgid hæmorrhoidal Veins; and an Evacuation of the black Bile by Vomit and Stool.

Patients labouring under this Disorder are generally greatly injur'd by all Medicines which impair the Strength, and evacuate too forcibly; as also by those which throw the Humours into too violent Commotions, whether Cordials, or Medicines of whatever other Denomination.

Hence the best Method of curing this Disorder is, after a due Observation of the first Cause, and the Variety of Patients Constitutions, to accommodate various Medicines to these Causes, and various Constitutions.

The several Intentions of Cure to be pursued, therefore, are,

1. To rouse, augment and regulate the Fluids of the Brain and Nerves; which is done, first, by diverting the Mind from its

usual Object to others of an opposite Nature: Secondly, by inducing cautiously another Disposition, or Affection of Mind, opposite to Melancholy: Thirdly, by humouring the perverse and false Turn of the Imagination: Or, fourthly, by frequently opposing it with great Vigour.

2. To remove those Obstructions which are either the Cause, or the Effect, of a perverted Imagination, by softening, incising, and stimulating the obstructing Matter, by means of Mineral Waters, Whey, visceral, hepatic, and antihypochondriac Decoctions, Waters invigorated with lixivial or compound Salts, laxative Preparations of Mercury, Emetics, Motion, Exercise, Riding, Sailing, uterine Medicines, and such as promote the *Lochia*, Remedies which procure hæmorrhoidal Discharges, Baths, Liniments, and Plaisters.

3. To alleviate the Symptoms by Venesection, Immersion in cold Water, and the Use of Carminatives and Opiates.

4. After due Evacuations, to exhibit such Things as are from Experience known to exhilarate the Mind, and corroborate all the Parts of the Body.

From what has been said, 'tis obvious that the perfect Cure of this Disorder, as well as of a great many others fully accounted incurable, consists in the Correction of the *Bilis Atra*, or melancholic Humour.

When Melancholy increaseth so far as to bring on an Agitation of the Fluids of the Brain, capable of driving the Patient into a raging Fury, the Disorder is call'd *Madness*.

This only differs in Degree from a dejected Melancholy, is its Offspring, arises from the same Causes, and is generally to be cured by the same Medicines.

In Madness the Muscles are generally surprisingly strong, the Patient is afflicted with Watchings, incredibly capable of enduring Hunger and Cold, distracted by terrible Imaginations, and subject to those Disorders call'd *LYCANTHROPIA* and *CYNANTHROPIA*; which see.

'Tis observable, that, upon dissecting those who have died of Madness, the Brain has been found dry, hard, and friable, with its cortical Substance of a yellow Colour, and its Vessels turgid, varicose, and distended with black and viscid Blood.

'Tis also observable, that, during this Disorder, all the Excretions have, in like manner, almost ceas'd.

Unexpected Precipitation into the Sea, and a Submersion in it, continued as long as possible, constitute the principal Remedy for it.

Madnesses obstinate against all Remedies have often been remov'd upon the approach of Varices, hæmorrhoidal Discharges, Dysenteries, Dropsies, copious spontaneous Hemorrhages, Tertian and Quartan Fevers.

Such a sort of Madness sometimes arises after the Body is by an autumnal, violent and long-continued intermittent Fever, weaken'd and exhausted, both by the Force of the Disease, and repeated Venesections and Purgings. The Madness is also generally brought on again by these very Means.

This Species of the Disorder is only to be cur'd by the Use of Restoratives, Cardiacs, and Corroboratives, long persisted in: But, if it is treated with Evacuation, it brings on an Atrophy, a Weakness, and an unformountable Foolishness.

But a Madness arising in robust vigorous Persons in the Flower of their Age, or of hot and plethoric Habits, is to be cur'd by repeated Venesections, interposing a brisk Purge between each; and, when the Disorder is alleviated, it is to be treated with Opiates and Cardiacs. *Boerhaav. Aphorisms.*

MANJAPUMERAM. II. M. *An Arbor tristis Garcie & Acostæ?* This is a large Tree growing in the *West Indies*. The Flowers, which are of a warty White, and smell like the best Honey, are of a bitterish Taste, and believ'd by the Inhabitants to comfort the Heart, and the Pagan Physicians reckon the Seed among Cardiacs. The distilled Water of the Flowers is supposed to be good for the Eyes, if a Linen Cloth be dipped in the same, and apply'd to the Part; for which Purpose, and for the Fragrancy of their Smell, the Flowers are carefully gather'd by the Inhabitants. *Raii H. P. p. 1698.*

MANICA Properly a Sleeve; but, in Pharmacy, the *Manica Hippocratis*, is a Bag in the Shape of an inverted Cone, thro' which Things were strain'd: It is now generally made of Flannel; but the Antients us'd a *Manica Hippocratis*, made of Rushes, or Wicker, as we learn from *Rhodius's* Notes to *Scribonius Largus*.

Hildanus calls by this Name a particular sort of Pusse open at both Ends, which he describes in his *Treatise de Gangrena & Sphacelo*, and gives a Figure thereof. This he directs to be put about a Limb, just above the Place of Amputation, before the Operation is perform'd.

MANIHOT, *Indorum, sive Yucca Foliis Cannabinis*. C. B. *Manibot Theveti, Yucca & Cassavi*. J. B. *Hucca sive Mandioca ex qua Cassavi fit*. Park. *Maniba & Manduba Brasiliensibus, cujus Radix Mandiboca*. Pison. Margr.

Many Countries of the *Indies* have been destitute of frumentaceous Grain to these Times, instead of which the bountiful Hand of Nature has supply'd them with a Plant, the Root of which, called by the Barbarians *Mandioca*, being reduced into Flour,

Flour, is made into Bread, which may be compared with the best Bread made of Wheat.

The Inhabitants of *Hispaniola*, and other Islands, are not destitute of this Plant; the Root of which they call *Taca*, but the other *Mexicans*, *Quauhcamotli*; and, after it is prepared and reduced to a Flour, *Cassavi*, as we are assured by *Monardes*. All the other People of *America*, from *Florida*, even to the Straights of *Magellan*, make their Bread of it, tho' they are not destitute of the trumentaceous Grain called *Mayz**.

The Manihot, which is natural to *Brasil*, and there most carefully cultivated, is a shrubby Plant, which grows from five to eight Feet in Height, with a woody, twisted, nodous, brittle Stalk, containing a Pith like that of Elder; the Leaves are digitated, like those of the Lupine, or black Hellebore, the Flowers pentapetalous, and of a pale-yellow Colour; the Seed like that of the Ricinus, but of no Use. The Root is not unlike a Parsnip, and turgid with a lacteous Juice; after it is taken out of the Ground, it is put into an Hand-mill, with Iron Teeth, turned by two Men, and ground to a Meal, which is afterwards subjected to a Press, by which all the superfluous and noxious Humour is evacuated, and the Mass left quite dry: This done, they pass it through a Sieve, called *Urupeba*; then set it over the Fire in a flat-bottom'd Vessel of Earth or Copper, and stir it about till it is duly dressed. What is half-dressed, is still moist and esculent, and they call it *Farinha relada*, that is, Meal dressed, but not dried. What remains, and is intended to be reserved, they keep stirring over the Fire, till it is perfectly dried; for the drier and better dressed, the more durable it becomes.

The Plant, being pressed, yields a Liquor, called by the Natives *Manipuera*, which, poured into a Vessel, after two Hours, sticks to the Bottom: Hence is produced another Sort of Meal, better than the former, and yielding more Flour; this they call Cream of *Tipioca*. Of the Water of this Meal, what subsides to the Bottom, serves to make a sort of Comfit, called *Tipiaceto*, of an excellent Taste: There is, also, a sort of Gum, or rather Amylum, which serves for the same Use. This Liquor *Manipuera* is most greedily coveted by all sorts of Animals, for its pleasant and sweet Taste, but is present Death to them; yet, what is strange and remarkable, while it remains unpressed in the Root, nourishes every Animal, except Man: Besides the former Preparations of the Root, dried in the Sun, there is made another Sort of Meal, and a whitish Flour, which make fine white Bread, and Biscuits, as good as those made of Wheat, and very much resembling them. The Root reserved entire, without grinding, serves to feed Cattle, and Beasts of Burden. The Plant is miserably infested by Worms and whole Swarms of Ants and not only the Stalks and Leaves, but the very Roots, are greedily devoured by wild Beasts, as well as domestic Animals. The Natives of *Brasil*, the *Negroes*, and many *Europeans*, are so great Lovers of the Leaves, that they bruise them, boil them, and pickle them, and eat them instead of Lettuces, forming them into Masses, which the *Brasilians* call *Manicoba*. The Root macerated four or five Days in Water, and render'd soft, is called *Mandiopiba*, which, being fried, is greedily eaten, by the vulgar sort of *Indians* and *Savages*: Of the Sediment of this Consistence is made a soft and finer Sort of Meal, which the *Brasilians* call *Pipeba*, and the *Portuguese* *Farinha fresca*. Of the *Mandihoca* bruised, and prepared with Butter and Sugar, are made excellent Sweetmeats; there is, also, a kind of Pudding prepared of the *Mandiopela*, which they call *Mingau petinga*. The soft *Mandihoca*, which they call *Puba*, being dried over the Fire, is called *Carima*; of this the *Negroes* make a sort of Bread, which is very much esteem'd, and called by them *Musam*, or *Angu*, and sometimes *Enfonde*: But they make a most excellent sort of Pudding of the same, which they call *Mingau de Carima*, seasoning it with *Brasilian* Pepper instead of Spice, and the Flowers of *Nhambs*; this kind of Food being very grateful to the Palate, as well as conducive to Health, they seldom make a Dinner without it, and never think they fare well, if this Aliment be wanting. Of the same *Carima* they prepare Emulsions and Pisans, which are esteemed very wholesome, and proper for sick as well as healthy Persons; for the *Tipioca* and *Carima* being drank, or taken in the Form of a Syrup, with Water of Orange-flowers, with a little Sugar, generally serves for an Antidote. The *Tipioca*, being defecated by many Washings, then dried, and carefully preserved from all Humidity, cures consumptive Persons, and those who labour under a Dysentery; restores such as are feverish, labouring under Faintings, or infected with Poison: Besides, the simple Pisan, prepared of it, recovers those who have their Strength exhausted by violent Exercise, and represses immoderate Sweat; taken inwardly, or applied outwardly, it puts a Stop to all sorts of Hemorrhages, and especially such as proceed from Wounds.

* There are several Species of the *Mandihoca*, which, tho' at first Sight they may seem not to differ, are yet distinguished by experienced Planters, with respect to their Worth, their Stalks, and Bark. The first Species is called by the *Brasilians*, who live near the Sea, *Mandibaburara*; this has whitish Stalks and Roots. The *Mandibparata*, *Mandipeba*, *Mandipuca*, *Mandibumana*, *Aipi*, (which is subdivided into several Species, whose Names may be found in *Maregrave*) *Tapecima*, *Aipipoca*, *Mandijupeba*, and *Aipimacoxera*, are all distinguished by red Stalks, and Roots which abound with a lacteous Humour. The Roots and Stalks of all these Species pass under the common Name *Mandihoca*.

Of the Species of Manihot, called *Macaxera*, they make a very good Sort of Wine, which tastes like Whey. The Shavings of the *Mandihoca*, applied to Wounds, and old Ulcers, cleanses and reduces them to a just Temperament. The *Manipuera*, boiled, thickens into a Pudding, and becomes good Aliment; and if you add thereto Rice and Sugar, with distilled Water of Orange-flowers, it acquires the Form of a most grateful Conserve, and, changing its Name, is called *Marmelada de Mandioca*. The *Macaxera*, besides supplying the room of the Meal before spoken of, being tried over the Fire, is eaten without any other Preparation, and called *Macapera*.

From the Roots of the other Species you must abstain, because they are present Poison; and there are even some, which you may sooner burn than deprive of their Poison, and render them fit to eat; and the Natives of the Country themselves, who were not so well exercised in separating the Esculent from the Poisonous, have sometimes lost their Lives through their Ignorance; but they are now better instructed to chuse the wholesome Kinds, which are not only the principal Support of their own Lives, but of all the *Europeans* who live in *America*, who scruple not to prefer the Bread made thereof to wheaten Bread, tho' it is esteem'd to afford less Nutriment.

The *Negroes* and *Brasilians*, in their Eating, throw whole Handfuls of the Meal into their Mouths, with such Dexterity as not to lose a Bit, though they keep their Hands remote from their Mouth: They seldom or never drink in eating it, because it imbibes Water excessively, and so causes Inflation in the Stomach.

We have been the fuller in our Account of this Plant, because it is of such universal Use, that it feeds many of the human Race; for most of the Inhabitants of that vast Part of the World called *America* live principally upon it.

Piso speaks of another wild Sort of *Mandihoca*, and has given us a Figure of it; he calls it an arborescent Shrub, but it is very like the cultivated Kind, in Stalk and Leaves, tho' far inferior to it in Value.

All who have written of the *Mandihoca*, assure us, that the expressed Juice of the Root is present Poison to all Animals; but that, after it has stood four-and-twenty Hours, it loses its malignant and pernicious Quality. *Raii Hist. Plant.*

MANIODES, *μανιώδης*. Maniacal. An Epithet in *Galen* for a violent kind of Delirium.

MANIPULUS. An Handful; that is, as much as can be contain'd at once in the Hand. It is a Measure frequently mentioned in Pharmacy, relative to Flowers, Herbs, and other things; and is expressed in Abbreviation by M.

MANNA. This has various different Significations: Thus *Manna Thuris* is a Species of Frankincense, in small Grains; see *THUS*: And *Manna Guaiacana* is an Extract of Guaiacum. *Libavius* mentions a *Manna Magnetis*. *Manna Caelestis*, in *Quercetan's Pharmacop. Reslit.* is explain'd by *Schroder*, Bees-wax, tho' some take it to be purify'd Sugar. The *Manna Solaris*, or *Unicornu Solare*, is a Preparation of Gold, described by *Schroder*, *Lib. 3. Cap. 9.* The *Manna Martis*, is a Tincture of Iron, described by the same Author, *Lib. 3. Cap. 11.* And, in *Cap. 13.* of the same Book, he directs a Tincture of Lead, with Spirit of Wine, under the Title of *Manna Saturni*. *Manna Vomitoriorum* is Salt of Vitriol. *Castellus* from *Rolfincius*. *Rulandus* says, the Name of *Manna* is applied to all sweet Substances, from whatever extracted.

But what is commonly known by the Name of *Manna*, is a common cathartic Drug, of which *Frederick Hoffman* gives a much better Account than the celebrated *Salmasius*.

As in many Disorders Purgatives are the best of Medicines, so *Manna* may, on many Accounts, be said to be the best of Purgatives; for which Reason we shall first consider its Origin, Name, and History; and then take a View of its singular Use and Efficacy in Medicine. But, since various Substances are comprehended under the general and extensive Word *Manna*, it is therefore expedient, previously, to ascertain the precise Idea we affix to it. The Word *Manna* is, therefore, properly, of an *Hebraico-Syriac* Extract, and, strictly taken, signifies a Gift gratuitously conferred, without any Obligation thereto on the Donor's Part: From this Signification the Word *Man* was first, by the inspired Writers, transferred to that Species of Aliment, with which bountiful Heaven supplied the *Israelites* for forty Years in the Wilderness. And since this Species of Aliment fell early in the Morning, in the Form of Dew on the Earth, and was possessed of a sweetish Taste, the *Greek* and *Latin* Writers afterwards by the Word *Manna* understood, a Dew resembling Honey, which fell in the Morning, as *Celsus*, in *Lib. 13. Cap. 46.* observes. But, at last, the Denomination of *Manna* was, by the Antients, confined to a certain Medicine, which they believed

to be, as it were, the Offspring and Product of Dew; so that, among Physicians, the Word *Manna* signifies no more than a grumous Substance, of a white and somewhat yellowish Colour, of a sweetish Taste, somewhat acrid, pinguious, and possessed of a laxative Virtue: Of this Species of Manna we intend to treat. But, besides this, there is another Manna, generally called the Manna of Frankincense, which is no more than small Portions of that Commodity, broken off by the Concussion in Carriage, according to *Pliny*, and *Galen*, in *Lib. 4. de Composit. Medicam.* and these broken Portions were, perhaps, called *Manna*, on account of their Colour and Figure. The Name of *Manna* is, also, given to *Russia* Seeds, which being not unlike the Seeds of Gromwell, are produced in the Confines of *Silesia* and *Poland*, and are called *Manna*, because, in the Opinion of the Vulgar, they in a miraculous manner fall from Heaven.

Having premised these Things, we now come to trace the Origin of this medicinal Manna: When, therefore, we carefully look into the Works of those who have wrote on this Subject, we find that Physicians generally run into three different Opinions, with respect to the Generation of Manna; for *Christophorus a Vega* affirmed, that the Manna was discharged in a liquid Form, Drop by Drop, from Grasshoppers, and small Bees; and that, being deposited on Leaves, it was indurated by the Heat of the Sun. But as this Opinion is absolutely inconsistent with Truth, *Frederic Hoffman* the elder has, in his *Clavis Schroederiana*, exploded it as false and imaginary.

Another, and indeed an almost generally received, Opinion among the Antients, is, that Manna descended from the Air, and consisted of sweet and sulphureous Exhalations, previously raised from the Earth and Waters by the Heat of the Sun in warm and dry Days; after which these Vapours, being condensed by the Cold of the subsequent Night, fell down early in the Morning, in the Form of Dew, on the Earth and Trees. Thus *Pliny*, in his *Natural History*, *Lib. 11. Cap. 12.* informs us, that Manna descends from the Air, especially early in the Morning; and leaves it undetermined whether it is what he calls a Sweat of the Heavens, a certain Saliva of the Stars, or the Juice of the Air purifying itself. And *Galen*, in his *Treatise de Aliment. Facult. Lib. 3. Cap. 39.* calls Manna, aerial Honey; and tells us that, according to the most skilful Naturalists, the Exhalations arising from the Earth and Waters, being attenuated and concocted by the Heat of the Sun, were by the Cold of the succeeding Night condensed into the Substance called *Manna*. Of the same Opinion are *Zacutus Lusitanus*, in *Med. Princ. Hist. Fuchsius de Comp. Med. Lib. 1. C. 76.* *Schroder*, in *Pharmac. Medico-chym.* and some others, but more especially *Matthiolus*, in *Comment. in Lib. 1. Dioscorid.*

But besides the Circumstances discovered by those who have travelled into the Countries where Manna is produced, there are many important Reasons concurring, to demonstrate that it is neither Dew, nor the Produce of Dew. *Fallopins*, *Op. Tom. 1.* calls the Truth of this Opinion into Question; and other Authors, justly celebrated for their Learning, have shewn it to be absolutely false. For if Manna was either Dew, or the Produce of Dew, it would, without Doubt, be colliquated and exhaled by Heat; or it would be found on all Herbs, Trees, Rocks, or the whole Ground of the Countries where it is produced. But 'tis certain, that Manna is rather condensed by the Heat of the Sun, and is only found on certain Trees, which afford more or less of it, according as they abound more or less with Juice.

The third Opinion, which is indeed most agreeable to Truth, is, that Manna is the nutritious Juice spontaneously dropping, or artificially obtained, from Trees, especially from the *Fraxinus*, and the *Ornus*; for, as we are in general to observe, that the honey-like Dews, said to fall from the Heavens on Trees, and especially on frumentaceous Plants, have no Existence in Nature, because they are found concreted not so much on the superior, as on the inferior Parts of the Leaves, and are only got on certain Species of Vegetables in the same Countries; so it must of course follow, that this roscid, sweetish, and somewhat pinguious Substance, which, after a Series of hot Weather, especially about the Summer Solstice, is, immediately after a small Shower of Rain, found on frumentaceous Plants, especially on Wheat and Rye, is nothing but the nutritious Juice contained in the Tubes of the Plants, rendered sweet, and matured, by the Heat of the Sun. And a Rain happening, this Juice, being dissolved in these Tubes, is carried to their Extremities, where it breaks out. Besides, this Juice, and especially that produced by Rye, is possessed of a laxative Quality, which discovers itself, if the Stalks, abounding with it, are chewed; in the same manner as the Juice of the tender Blades of Corn, expressed, or obtained by Infusion with hot Water, proves an excellent Purgative. This Opinion is efficaciously confirmed by that sweetish nutritious Juice, which, in the Beginning of the Spring, is obtained from an Incision made in the Bark of a Birch-tree; for this Juice, if inspissated by means of a gentle Evaporation, is concreted like Honey, and is, also, possessed of a laxative Quality.

It is, therefore, certain, that Manna is the nutritious Juice of Trees, of the *Fraxinus* and *Ornus*, for Instance, in *Calabria*, *Apulia*, and *Sicily*; rendered sweet, and matured, by the intense

Heat of the Sun in these warm Climates. Then, by the nocturnal Dew, which frequently falls in these Countries, and which easily penetrates into these Trees, the Juice is melted, and protruded to the Stamina of the Leaves; or it is discharged from an Incision made in the Trunk, and, at last, inspissated by the Heat of the Sun. This Opinion is confirmed by the Experience and Observation of *Mr. Ray*, who, when travelling in *Italy*, found that the Manna was produced by the Tree called *Fraxinus*, even when covered in such a manner, that the Dew could have no Access to it. The same Author affirms, that others have wrapt up some Branches of these Trees in Linen Cloths; or, cutting them off, have lodged them, in the Night-time, in Chests, notwithstanding which Precautions, the Manna was found concreted on them.

Manna is therefore a nutritious Juice, spontaneously dropping, or artificially obtained, from the Leaves or Barks of Trees. As this Juice is yielded in different Countries, so there are various Species of Manna. Thus there is a liquid Manna, which, by some, is thought to be the *Mel Cedrinum* of *Hippocrates*. Of this Species *Linsebotus* informs us there is a large Quantity produced about Mount *Sinai*. According to *Rauwolfius*, in his *Itinerarium*, there is another Species of Manna produced in *Persia* from a thorny Shrub, by the *Arabians* called *Algul* and *Alhagi*. This Species is of the Shape of Coriander-seeds, and as large as common Grains. There is, also, a Species of Manna brought from *Syria*, which was principally known to the Antients; who distinguished it into the *Manna Mastichina*, which was the best; and the *Manna Bombycina*, which was less valuable. Of this Species *Matthiolus*, in *Lib. 1. Dioscorid.* gives us a full Description. There is, also, a Species of Manna brought from *Calabria*, in Pieces as large as one's Fist, and of a brownish Colour. But Manna is most copiously produced in *Sicily*, *Apulia*, and *Calabria*; from which last Country it is called *Calabrian Manna*. Since, therefore, this *Calabrian Manna* is most generally used in the Shops, omitting the other Species, we shall confine ourselves to the Consideration of this.

But that we may, with the greater Accuracy, execute this Design, we shall, from *Mr. Charas*, who, in his *Pharmac. Reg.* has collected the Opinions of *Ray*, and some others, give the Method of obtaining and gathering the *Calabrian Manna*. This Author, then, affirms, that Manna is a Juice flowing from the common Ash, called *Fraxinus*, or the wild Ash, called *Ornus*, when the Sun enters the Sign *Cancer*: That this Juice is every Year collected in hot and dry Weather, about or a little before, the Dog-days, and the *August* Rains, because, when rainy Weather begins, it ceases to flow: That there are three Kinds of this *Calabrian Manna*, one by the *Italians* called *Manna di Corpo*, which is the most elegant of all the others, is either spontaneously discharged from the Trunk, and larger Branches of the Tree, in form of a crystalline Liquor, and becomes concreted into Grains, some larger, and some smaller, which are, the succeeding Day, carefully gathered, lest they should be again melted by the Rains, or the Fogs; or that about the Rising of the Sun the Bark of the Tree is divided with a Knife, the discharged Liquor received in Vessels, put upon Paper, and exposed to the Sun, in order to be dried: That the second Species, by them called *Forcata*, which is obtained by Art, is, by the same Trees, after they cease to drop spontaneously, yielded in the Month of *August*, from Incisions made in the Bark to the Wood. That, from these Incisions, the Manna flows copiously from Noon till Ten o'Clock at Night, and is next Day exposed to the Sun in order to be dried; but that this Species is less esteemed, on account of its Impurity and yellow Colour: That the third Species is called *Manna di Frondi*, and is spontaneously, by way of Sweat, discharged from the Leaves of the Trees, on which the Drops are indurated; but, that this last Species is not very carefully collected, because it is not, without the greatest Difficulty, to be separated from the Leaves.

Tho' *Hippocrates* seems to have been unacquainted with Manna, yet it was a Medicine known to many of the antient Physicians and Naturalists; for we have already observed, that *Pliny* and *Galen* make mention of its Origin. And *Matthiolus*, *Lib. 3. Cap. 9. de Plantarum Historia*, informs us, that long before the Days of these Authors, *Theophrastus* had made mention of it. But, because none of these mention the Use and purgative Quality of Manna, 'tis probable these were unknown to them, and that they were at last discovered by the *Arabians*; for, as the *Arabian* Physicians, such as *Avicenna*, *Mesues*, *Serapion*, and *Averroes*, lived in a Country where large Quantities of Manna were produced, they not only every-where make mention of it, under the Names *Terenabin*, *Siracosi*, and *Mel de Cusiram*, but were, also, the first who described its various Uses, and surprising Virtues; asserting that it was symmetrical in its Temperament, with respect to Activity hot in the first Degree, and temperate with respect to Passiveness.

These were, afterwards, followed by the *Italian* Physicians; especially *Brassavolus*, *Ruellius*, *Fernandus*, and others; who, with singular Success, made use of Manna, in a Nation whose Inhabitants, in consequence of their tender and delicate nervous Systems, cannot bear highly acrid and drastic Medicines. But in

Germany, and the adjacent temperate Climates, the Use of Manna was later introduced; for Physicians were of Opinion, that so mild and gentle a Medicine would prove but ineffectual, when exhibited to a Set of Men of Habits so vigorous and robust as the *Germans*. But this Persuasion has from Experience been found to be entirely false and groundless.

Having thus traced the Origin and most antient Use of Manna, we now come to examine by what Elements or Principles it operates, and what Effects it principally produces. Upon a strict Inquiry we, therefore, find, that in Manna there is a certain subtle and volatile Acrimony, which is soon dissipated and exhald; in consequence of which it not only loses its Virtue by Length of Time, and is divested of a great Part of its Efficacy by long boiling, but, also, becomes nauseous and ungrateful to the Taste. Now since it is certain, that frequent Stools are produced by the increased and accelerated peristaltic Motion of the Intestines, and that this increased Motion is principally excited by those Things, whose penetrating and subtle Acrimony intimately insinuates itself into the slender nervous Fibres of the intestinal Coats, which it stimulates to quicker and stronger systaltic Contractions; 'tis sufficiently obvious, that it is by means of this acrid, subtle, volatile, and salino-sulphureous Principle, that Manna proves purgative.

But as that Acrimony, by means of which Purgatives operate, is of various Kinds, not only according to their more or less caustic, fixed, or volatile Natures, but, also, according as they are more or less united and mixed with sulphureous, mucilaginous, earthy, or bitter Particles; so they produce various Effects, both in evacuating and changing the State of the Fluids. Hence it is, that one Purgative is better, safer, and more efficacious, than another. Now, if we consider that mucilaginous, temperate, sweet, earthy, and oleous Substance, which commodiously sheaths up the acrid and stimulating Principle in Manna, we may readily conclude, that the mild and gentle purgative Quality of this Medicine is, in a great measure, derived from the former; for 'tis certain, that all mucilaginous and earthy Substances are highly efficacious, not only in moistening and softening hard Parts, but, also, by their mucilaginous Contexture, in covering and correcting saline, acid, bilious, and other acrid volatile Particles; and thus, by removing what retarded the Evacuation of the Fæces, they facilitate and promote the same; so that it is not to be doubted, but that this mucilaginous Substance of Manna, by correcting the acrid and noxious Quality of the Humours, and paving a Way for their free Discharge, excellently contributes to the Purposes of Evacuation.

Now that the sweetish and mucilaginous Juices of Vegetables are possessed of an highly correcting, emollient, and laxative Quality, is not only obvious, from what has been said concerning the expressed Juice of the tender Leaves of growing Corn, and that discharged from the Birch-tree; but, also, from Instances of other Juices, especially when mixed with Sugar. Remarkable Instances of this are found in the Juices of Peas, red Chiches, sweet Apples, whether recent or putrid; as, also, in the Syrup of putrid Apples, the Juice of Prunes, of Apricots, of Peach-flowers, of the *Egyptian* Thorn, and of Roses; the Syrups prepared from all these; the Robs of Raisins, Currants, and Elder; the Juices of Liquorice, Polypody of the Oak, and Buckhorn; Honey; the Pulps of Cassia and Tamarinds, Damask Prunes, and other Vegetables full of a sweetish Juice.

Since, therefore, Manna is not only purgative, but, also, possessed of a correcting and tempering Quality, it is justly to be accounted a Medicine of all others the most mild, safe, and friendly to Nature; for though, especially when exhibited in large Doses, it powerfully purges the Primæ Viæ from all Sordes and, in some Patients, procures, perhaps, twenty Stools, when three or more Ounces of it are taken; yet so wonderful and salutary are its Virtues, that it expeditiously produces its Effects without bringing on violent Pain, Loss of Strength, Ebullition of the Blood, an Augmentation of the Thirst and Pulse, or a preternatural Heat. We may, therefore, in general, affirm of Manna, that its Use is more extensive, and its Nature better accommodated to most Persons, than that of any other lenitive or purgative Medicine, so that it is possessed of some peculiar Virtues, which are not to be found in other Purgatives.

Such is the Nature of Manna, that it expeditiously discharges from the Body all kinds of Humours, whether serous, bilious, or acid; it corrects and sheaths up the Acrimony of the bilious Humours; and, which generally happens with other Purgatives, it is neither entangled, nor its Force impaired, by acid Humours, but, by correcting and subduing them, rather facilitates their Evacuation by the Anus. Besides, the Use of Manna is suited and adapted to all those, who, in consequence either of their Weakness, or the Delicacy of their nervous Systems, cannot bear acrid Medicines, though, at the same time, their Primæ Viæ are to be freed from the Sordes lodged in them. This Medicine is calculated for Persons of all Ages, Sexes, Constitutions, and Countries. For which Reason, *Zacutus Lusitanus*, in *Medic. Princ. Inst. Lib. 6. Hæ. 8.* gives a compendious, but just Account of the Virtues of Manna, in the following Words: "Manna may be exhibited to Persons of all Consti-

tutions; for it purges the whole Body from excrementitious Humours, and especially from Bile. It cleanses the Breast, is of a lenitive Nature, and, together with the thin, expels the viscid Humours from the Thorax, without doing any Injury to the Head, or nervous System. It strengthens the Viscera, corroborates the Stomach, purifies the Blood, exhilarates the Heart, renders the Breathing free, allays Thirst, and excites the Appetite: In a Word, every Part of the Body receives singular Benefit and Advantage from it."

It is found from Experience, that Manna is, in a principal manner, beneficial to Children; for it often happens, that the Milk, stagnating in the Stomach, is coagulated, and, fermenting with the Bile, assumes, not only an acrimonious, but even a corrosive Quality; in which State, being conveyed to the highly sensible nervous Coats of the Intestines, it excites intolerable Gripes, accompanied with Restlessness, Convulsions, and Epilepsies, which frequently prove mortal. In this Case the principal Intention of the Physician ought to be to correct the superfluous and corroding Acrimony, and to eliminate the corrupted Humours. But, in order to obtain this End, acrid Purgatives and Evacuants are by no means proper; since, tho' they purge efficaciously, they are nevertheless rather hurtful than beneficial; because, in consequence of the highly tender and nervous Texture of the Stomach and Intestines, they shock the whole nervous System, and induce Symptoms of a more formidable Nature than those they were designed to remove. In Cases of this Nature, the most efficacious Medicine of all others is Manna, which, on account of its mild Nature, induces no violent Symptom; but, correcting the Acrimony of the peccant Humours, quickly eliminates them, to the great Relief of the Patient. For answering this Intention, the Syrup of Manna is of singular Service, either by itself, in Conjunction with Rhubarb, or in the Form of Mixtures and Potions, which may be variously prepared according to the various Ingredients added to them. But from Experience I can recommend the following Mixture, as efficacious in an uncommon Degree:

Take of the Waters of the Flowers of the *Egyptian* Thorn; of black Cherries, and of Lime-flowers, each an Ounce; of Crabs-eyes, one Dram; of the Extract of Rhubarb, twelve Grains; of the Syrup of Manna, half an Ounce; and of the antiated Spirit of Sal Ammoniac, ten Drops: Make into a Mixture, of which the Dose is from one to two Spoonfuls.

For the same Reason Manna is highly beneficial to old Persons; for since in Old-age, according to the Maxim of *Celsus*, every thing taken into the Stomach becomes acedent, and especially since, by reason of a Defect of the Secretions, a great Impurity of the Humours is contracted, it is for this Reason of singular Service to free the Primæ Viæ from the Sordes lodged in them. But if an Evacuation of these by Stool should be attempted by means of strong and drastic Medicines, the Patients would sustain a great and scarcely reparable Injury, since such is the peculiar and pernicious Quality of these drastic Purgatives, that they surprisngly impair the Strength, so that an Exhibition of them to old Persons of weak nervous Systems, would make them fall undoubted Victims to that which was intended for their Relief. On the contrary, Manna is of a mild Nature, and excellently calculated for evacuating any acid Sordes, which may be lodged in the Body; for which Reason nothing is more proper and efficacious for rendering the Bodies of old Persons soluble.

Besides, pregnant Women are justly to be classed among the Number of those who are to be treated with highly gentle Evacuants; for it is very common for Women in this Condition, in consequence of a Plethora, to fall into a Cacoehymy. All Care is, therefore, to be taken, that the impure Juices should be expelled from the Body; and this End is principally obtained by an Elimination of the peccant Humours from the Primæ Viæ. But, for answering this Purpose, drastic Purgatives are by no means proper; since, by inducing Contorsions in the Membranes of the Intestines, and other nervous Parts of the Body, and by exciting violent Spasms, they stimulate the Uterus to an Exclusion of the Fœtus, and, also, destroy the due Tone of the Stomach. For Women, therefore, in this Condition, gentle Evacuants are far more proper; the best of which are the *Pilulæ Balsamicæ*, Preparations of Rhubarb and Raisins, and, in a particular manner, Manna, especially with an Addition of such things as corroborate the Stomach, and whole nervous System. This we are told by *Zacutus Lusitanus*, in *Hist. Medic. Princip. Lib. 2.* in the following Words: "Manna, says he, may be safely exhibited to pregnant Women, when either Advantage, or absolute Necessity, calls for it."

If we inquire to what particular Diseases the Use of Manna is principally appropriated, we may easily perceive, that it is highly beneficial in those Disorders which are supported by a Colluvies of acid and bilious Juices, accompanied with a great Acrimony of the Humours; as, also, in Cases where the nervous Parts are spasmodically constricted, or agitated by preternatural Commotions. For this Reason, since in Coughs, Co-

tyzas, rheumatic, gouty, arthritic, and scorbutic Disorders, there is a considerable Acrimony and Impurity of the Humours, Manna mult in these be an highly efficacious Medicine; because, by the Use of it, the acrid Humours lodged in the Primæ Viæ are corrected, and, together with a large Quantity of the Serum, eliminated, which might otherwise induce a fresh Train of Misfortunes. But Manna is possessed of a peculiar and uncommon Efficacy, in curing long-protracted Chin-coughs, since these can hardly be removed without the Use of this Medicine. Hence *Prosper Alpinus*, in his *Treatise de Medic. Method. Lib. 9. Cap. 12.* in a Cough, advises the Body to be rendered soluble by means of Manna; for this Medicine, by its sweet and mucilaginous Nature, not only sheaths up and blunts the acrid Particles which produced the Stimulus internally, but, also, softens and soothes the Parts which are worn, and become rough and dry, by the Cough. Besides, the acrid Sordes is, by this Medicine, advantageously eliminated by Stool, and sometimes by Vomit.

Besides, in order either to remove, prevent, or mitigate Catarrhs, Coughs, and Pains of the Joints, nothing is so efficacious, as, in the Beginning of these Disorders, to take Manna in Milk, Water gruel, or Tea; and afterwards to drink Asles or Goats Milk, either with, or without the *Selteran* Waters, for some Mornings successively: By which means the Acrimony lodged within is totally subdued and destroyed.

Manna is, besides, an excellent Medicine in Fevers of all Kinds; for, since the Fomes of intermittent Fevers is generally lodged in the Primæ Viæ, and especially in the Duodenum, where large Quantities of acid, bilious, and ill-concocted Humours are collected, nothing is, certainly, of greater Use, than expeditiously to eliminate these, and free the Body from them, which is commodiously and efficaciously done by means of Manna. But that the Operation of this Medicine may be the more effectual, and the better suited to the Nature of these Disorders, it is to be mixed with a due Quantity of Bitters, such as the Decoctions of Wormwood, and the lesser Centaury, as, also, with detergent Salts; or, if Necessity requires it, with some emetic Stimulus; and exhibited on the Days of Remission; by which means every thing, which favours the Production of febrile Disorders, is remov'd: In like manner, if in burning and bilious Fevers, or in Tertian Fevers, of the bilious and double kind, the Primæ Viæ are to be cleans'd, Manna is an efficacious Laxative, and excellently suited to the Intention of the Physician, since in these Disorders the Quality of the Bile is peccant, and since a Flux sometimes spontaneously comes on, and happily terminates the Disorders. But, in bilious Fevers, the most commodious Method of exhibiting Manna, is to prepare it into a laxative Julap, in Conjunction with Tamarinds.

But the singular Efficacy of Manna is most conspicuous in spasmodic, hypochondriac, and melancholic Disorders, in which the Patient is not only costive, in consequence of the want of due Moisture, and the Redundance of acid Juices in the Primæ Viæ, but, also, by means of the spasmodic Strictures of the intestinal Coats, the Fæces are totally retain'd for some Days. Now we are certain from Experience, that it is an infallible Sign of the Obstinacy of these Disorders, when the Patient remains costive, and does not discharge his Fæces, unless by means of a Clyster, or the Exhibition of a Laxative. Besides, it, in consequence of the Spasms with which these Disorders are generally accompanied, the peristaltic Motion of the Intestines is considerably injur'd; if neither the Chyle can pass thro' the small Intestines, nor the Fæces into the Cavities of the large Intestines, nor the Flatulences be discharg'd, but the Sordes remain in the Body, assume a worse Quality, and become more acrid by their Stay there, and the Flatulences are repress'd, principally to the superior Parts, where they inflate the Stomach, it happens, that by this preternatural Distension, the Eighth Pair of Nerves, being affected, in consequence of the Consent of Parts, severely affects all the nervous Parts of the Body, especially those of the Head and Breast, by which means the State of the Patient is render'd worse.

When this happens to be the Case, the principal Intention of Cure is to restore the disorderly peristaltic Motion to its natural State, and to render the Body soluble, that by this means the Sordes and Flatulences may be freely discharg'd. But this requires Judgment and Skill, since 'tis hardly credible what fatal Errors are, in this respect, committed by the common Herd of Physicians; for Purgatives, and acrid Stimulating Medicines, increase the Stricture, render the peristaltic Motion of the Intestines more disorderly, and impair the Strength; for which Reason they are rather injurious than beneficial. Tho' Preparations of Aloes are of a somewhat mild and gentle Quality, yet, by throwing the Blood into Commotions, they have a Tendency to produce the Hemorrhoids; and, when the Blood is not discharg'd, they excite Pains, and increase the Symptoms. Tho' Sena, and the Preparations of it, are neither acrid, nor excite an Effervescence of the Blood, yet they generate Flatulences; for which Reason they are carefully to be avoided in this flatulent Species of Disorder. But, since Manna is of all other Laxatives the most mild and safe, 'tis therefore the most

proper and commodious for rendering the Body soluble in hypochondriac Disorders, since it soothes, alleviates, and relaxes, the spasmodically constricted Fibres of the Intestines; corrects the acrid Quality of the Humours, lest they should by their Vellication induce fresh Strictures; and, without impairing the Strength of the Intestines, eliminates the Fæces. But we must observe, that, in Disorders of this kind, its Cohjunction with neutral Salts, as also with Rhubarb, is highly beneficial and friendly to Nature, since, by an Addition of these, its Efficacy is not only greatly increas'd, but the Generation of Flatulences prevented.

As Manna is of singular Use in that spasmodico-flatulent Disorder, commonly distinguish'd by the Epithet hypochondriac, so 'tis no less considerably efficacious in other Diseases, where the Parts contained in the Cavity of the Abdomen are afflicted with Spasms. Of this we have a remarkable and satisfactory Proof in the spasmodic Colic, which racks the Patient with intolerable Pain, and is generally accompanied with an obstinate Constipation; for tho' 'tis customary, in order to allay the intense Pain, to inject large Numbers of Clysters, with no small Fatigue to the Intestines, yet such is often the Violence of the Disorder, that the Patient receives no Degree of Relief from them. For this Reason 'tis certain both from Reason and Experience, that, in such a Case the best and most efficacious Medicine is that which, as it were, anoints or covers over the whole internal Coats of the Intestines, that by this means the Stricture may be relax'd, and the Collection of acrid Humours, an additional Source of Disorders, convey'd to the inferior Parts, and eliminated by Stool. Since, therefore, Manna is possess'd of Qualities suited to both these Intentions, 'tis sufficiently obvious, that its Use must be highly beneficial in colic Pains, especially if, according to the Advice of *Lazarus Riverius*, in his *Prax. Tom. 1. Lib. 5. Cap. 1.* it is exhibited with Oil of sweet Almonds, and fat Broth prepared with Fowls.

Among these Disorders which affect the Kidneys, Bladder, and urinary Passages, and which excite uncommon Pains, we may justly reckon the Stone, a Suppression, and Heat of Urine, the most considerable. With respect to these Disorders, practical Physicians lay it down as a Maxim, that they call for the Use of such Medicines, as evacuate by the inferior Parts, that by this means the recrementitious Sordes, which foment and heighten the Disorder, may be evacuated by Stool; since in these Cases the Patient is generally costive. But *Fuchsius* in his *Treatise de Medend. Morb. Lib. 1. Cap. 38.* justly observes, that by the use of drastic Medicines the urinary Passages are irritated and contracted; for which Reason we are to use such things as gently evacuate the peccant Matter, and operate without exagitating the nervous Parts already too much disorder'd. Since therefore, 'tis obvious, from what has been already said, that Manna is of all others the most safe and gentle Laxative, it must of course follow, that in these Disorders it is of singular Service, and excellently calculated for rendering the Body soluble.

Nor is Manna only to be commended as a valuable Evacuant in Disorders of the Bladder, and urinary Passages, but it is also possess'd of a peculiar Quality, whereby it exquisitely soothes and allays the Contortion and Stricture of these Parts, especially when mixed with Oil of sweet Almonds, before it is exhibited; for tho' this Medicine is not convey'd immediately to the Parts affected, but exerts its Efficacy first in the Cavity of the Intestines, yet by reason of the surprising Consent between the Parts of the Abdomen, especially the large Intestines, and the urinary Passages, its medicinal Virtues are convey'd from the former to the latter. Hence, if the Fibres of the Intestines are surprisingly contorted and constricted, they are by a proper Dose of Manna sooth'd and relax'd; and this salutary Effect is convey'd to the Bladder and Urethra; by which means the Spasms being remov'd, the Pain ceases, and a Stone, the Source of terrible Misfortunes, is often discharg'd thro' the relax'd and dilated Passages. A memorable Instance of this we have in *Sydenham*, recorded by himself in his Works, where he informs us, that by persisting for some time in the Use of Manna and Whey, he was not only freed from an intense Pain about the Kidneys, but, also, from a Discharge of bloody Urine, so that he found himself proportionably better after each Dose. His Method of prescribing Manna we shall here mention: The Potion, then, us'd for the Gravel and Stone by this celebrated Physician, was prepared in the following manner.

Take of the best Manna, two Ounces; Cream of Tartar, half a Dram; and of the nephritic Decoction of *Forelius*, four Ounces: Mix up for a Potion.

He also prescribes a Potion, as highly beneficial in a Discharge of bloody Urine, which consists of two Ounces and an half of Manna, dissolv'd in two Pints of Whey, with the Addition of a sufficient Quantity of Lemon or Orange juice.

'Tis also to be observ'd, that Manna is in some degree possess'd of a diuretic Quality, which it palpably exerts in a Difficulty and Suppression of Urine. But, passing over other authentic Instances of this, we shall satisfy ourselves with the memorable

table one of a Man of seventy Years of Age, who, after a Discharge of bloody Urine, was for seven Days afflicted with a Suppression of Urine, accompanied with an intense Pain about the Region of the Pubes, and a total Retention of the Fæces. Tho' a Catheter was introduced, in order to procure a Discharge of the Urine, yet not a single Drop was evacuated by that means. But at last I prescrib'd a Decoction of Manna, which produced so happy Effects, that, without any violent Symptoms, several Stools, and the Discharge of some Pints of Urine, were procured.

Since, therefore, we ascribe the Cause of this Suppression of Urine to grumous Concretions of Blood lodg'd in the oblique Ducts of the Ureters about their Insertions into the Bladder; so 'tis not to be doubted, but, if, in consequence of a Compression of the Kidneys by Flatulences, or an Obstruction of the urinary Ducts by tartareous and mucilaginous Sordes, the Urine should be suppress'd, Manna is in like manner an efficacious Medicine, since it not only evacuates the Fæces, but, also, procures a Discharge of the urinous Serum; for 'tis highly probable, that the subtle, acid, sulphureous, and volatile Principle, which, in Manna, stimulates the nervous Coats of the Intestines, does for the same Reason, in some measure, stimulate and solicit the urinary Ducts of the Kidneys to a Secretion and Expulsion of the Urine; so that Manna seems in this Case to be possess'd of the same Efficacy with the inspissated Juice of the Birch-tree, a few Drams of which promote a liberal Discharge of Urine.

More Diseases, to the Cure of which Manna contributes, might be enumerated; but at present 'tis sufficient to have mention'd those, in which its Efficacy is most conspicuous; for from these the Use of Manna may be discovered in other Disorders, especially those arising from spasmodic Strictures of the internal Parts; such as almost all the Species of Deliriums, Pains, and Convulsions: For from what has been said 'tis obvious, that the continued and uninterrupted Use of Manna is of all other Measures the most efficacious, in Cases where the Body is to be purged from any Sordes, and at the same time more drastic Medicines cannot be ventured upon.

But, without insiling any longer on these Things, we shall only observe, that Manna is of singular Use in the Cure of those Diseases, for which medicinal Waters are to be us'd; for every body knows, that before the Use of Mineral Waters, whether of the cold or hot kind, the Body is to be previously prepared by a gentle Evacuant, that, by this means the Sordes being evacuated, these salutary Waters may, without any Obstruction, wash and pass thro' the Primæ Viæ. But we are to take particular Care, that no Purgatives, containing any acrid Ingredient, be us'd for this Purpose; because by injuring the peristaltic Motion of the Intestines, and impairing the due Tone of the Stomach, they are so far from being beneficial, that they rather obstruct and retard the free Passage of these Waters thro' the tubulous and villous Substance of the Intestines. In like manner, when the Cure is perfected, 'tis necessary, that the Remains of the Waters should, by a pretty brisk Evacuation, be discharged from the Viscera; for which Reason Physicians, who have the Charge of Persons Healths, during their Use of Mineral Waters, generally prescribe drastic Purgatives, of Scammony, Gamboge, Extract of Coloquintida, and Resin of Jalap, for the most part in the Form of Pills; which never fail to prove deleterious, and impair the Strength of the Patients: But the Disadvantages accruing to the Patients from such a Practice are hardly credible; for Persons of delicate Constitutions, and whose Stomachs, and nervous Systems, are subject to spasmodic Constrictions, are, by this means, afflicted with Cardalgias, Loss of Strength, and violent Gripes; whilst others are by the same means affected with such violent Symptoms, as to induce Deliquiums, and a total Privation of Strength; so that they frequently return from these salutary Waters in a far worse and dangerous Condition, than they came to them.

I myself, after having twenty times frequented the *Caroline Springs*, have often observed the salutary Effects of these Waters frustrated, and Health considerably impair'd, by the preposterous Use of drastic Purgatives; so that, inquiring into the Reason of this Misfortune, I began to form a Design of safely evacuating the Remains of the Waters from the Viscera, by means of Medicines more mild, gentle, and friendly to Nature; and, as I conceived Manna to be excellently suited to this Intention, I exhibited three or four Ounces of it dissolv'd in some proper Water, sometimes with an Addition of two Drams of Cream of Tartar: This Medicine produc'd the design'd Effect; for, after procuring sometimes ten or more Stools, I found, by its means, a large Quantity of Water was eliminated without creating any Pain to the Patient; for which Reason, I did not hesitate to follow the same Method, both before and after the Use of these salutary Waters; and, having totally rejected the more violent and drastic Purgatives, especially for sixteen Years past, I have in this manner treated those who committed the Charge of their Health to me, so that in one Spring I have us'd twenty Pounds of Manna. Some of the more judicious Physicians afterwards followed the same Method with the like Success.

Having now considered the Virtues of Manna, and the various Cases in which it is singularly beneficial, we shall next consider the most commodious and judicious Method of exhibiting it. First of all, then, it is absolutely requisite, that we specify and determine its due Dose; for some condemn this excellent Medicine as productive of Flatulences, and for that Reason endeavour to discard its Use. But, if we inquire accurately into this, we shall find, that it is rather owing to the Aversion these Persons have to sweet Substances, or the less agreeable Method of prescribing it, than to any faulty Quality really inherent in the Medicine itself; for it is customary with these Physicians, only to prescribe half an Ounce, or, at most, an Ounce, of Manna. 'Tis not, therefore, to be wondered at, if, by this means, the peccant Matter being put into a Commotion, but not eliminated, the viscid Sordes should generate Flatulences, especially in Patients already afflicted with them; of which kind, are principally those who labour under hypochondriac and hysteric Disorders. That these Misfortunes may, therefore, be prevented, we lay it down as a Maxim, that, to Infants and Children, from two Drams to half an Ounce of Manna may be exhibited; and, to Adults, from two to three or four Ounces may be prescribed, according to their greater or smaller Degrees of Strength and Vigour of Body. When exhibited in this Quantity, it will not readily excite Flatulences and Gripes, but prove effectually purgative, and sometimes, in Cases where the Stomach is overloaded with Sordes, excite a gentle Vomiting.

The precise Manner in which this Medicine is to be exhibited, is, also, to be determin'd by the Physician, according to the particular Effect he intends should be produced by it; for, as 'tis certain in general, that all Evacuants produce their Effects far more expeditiously and happily, if they are dissolved before their Exhibition, so the same holds true with respect to Manna. But there are various Liquors, which, according to the different Inclinations of different Persons, are made subservient to the Dissolution of Manna. Thus, for Instance, according to *Prosper Alpinus*, in his *Treatise de Med. Method. Lib. 3. Cap. 9.* it was customary, among the *Egyptians*, to use it dissolved in the Water of the Nile purified, or in Broth prepared with Fowls. And, in our own Days, the Method of exhibiting Manna is highly simple, since it may be dissolved either in Milk, Whey, or Water-gruel; or, instead of Sugar, it may be put into Coffee, Chocolate, or Tea, and by that means gratefully convey'd to the Stomach. But if a Medicine is to be artificially prepared of Manna, the distil'd Waters of Flowers and Herbs are generally used; those, for Instance, obtain'd from the Flowers of the *Egyptian Thorn*, *Meadow-sweet*, and *Elder*; as, also, from black Cherries, and *Paul's Betony*. But as these fragrant and sweet-smelling Waters are not equally grateful to all Patients, the most commodious Vehicles for Manna are pure Spring and Rain-water distil'd; or a proper Quantity of Mineral Waters of the cold kind; such as those of the *Spaw*, *Wildungen*, and the *Antonian Waters*: Or *May Dew* may be, also, used for this Purpose. But I generally order laxative Decoctions of Manna to be prepared, by taking an Ounce and an half of Water, to each Ounce of Manna. But, in order to dissolve the Manna, it must be very gently boil'd, lest, by a violent or too long-protracted Boiling, its subtle, volatile, and stimulating Principle should be dissipated in the Air.

But that such a Decoction of Manna may, at once, more effectually answer the Intention, and prove more grateful to the Palate, 'tis expedient to add some Things which concur to promote the same End. Salts are, in a peculiar manner, conducive to this Purpose, such as Cream of Tartar, the Arcanum Duplicatum, the Terra foliata Tartari, *Epsom*, and *Sedlitz* Salts; which, as they not only incide, resolve, and absterge the viscid Sordes, but are, also, possessed of a certain stimulating Quality, so they greatly assist and heighten the Efficacy of the Manna. With such a Potion a Dram or two of these Salts may be mix'd, and, lest they should be with Difficulty dissolv'd, they may be melted separately before the Manna is boiled. Then, in order at once to render the Preparation grateful to the Palate, and somewhat corroborative, after the Boiling is over, we may to the strain'd Liquor add twenty Drops of the Essence of Orange-peel, or two Drops of some fragrant or aromatic distil'd Oil, such as Oil of Cedar. This medicinal Potion is not to be drank all at once, but at different times, drinking immediately after a few Draughts of Water-gruel.

Besides, according to the various Intentions of Physicians, and different Conditions of Patients, other things may be mix'd with Manna, of which there may be, also, other Formulas of Medicines prepared. For, besides what we have said, when enumerating the Diseases in which Manna is beneficial, it is, also, to be observed, that this Substance is commodiously exhibited in burning and bilious Fevers, with Syrup of Lemon-juice, Rob of Tamarinds, Barley-water, Ptisan, or Goats Whey. Besides, in order to kill and dislodge Worms, a Preparation of Manna, with *Mercurius dulcis*, and *Rhubarb*, is highly efficacious: This Substance is, also, with happy Effects, exhibited in the suffocative Asthma and Chin-coughs of Children, with *Sperma Ceti*, Oil of sweet Almonds, and a little Saffron, using Water-gruel as a Vehicle for the Whole. Besides, if the Symptoms of the Patient indicate the

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Propriety of evacuating the acrid, bilious, and viscid Sordes, both by Stool and Vomit, to two Ounces of a Decoction of Manna, a few Grains of previously dissolved emetic Tartar, are to be added; and this Preparation is to be taken at different times, drinking immediately after, a liberal Draught of thin Water-gruel. By this means a Vomiting is first excited, and soon after, a large Number of Stools is procured. This Method of proceeding is principally to be recommended in the Beginning of Fevers, both of the intermittent and acute Kind, when we are pretty certain, that a large Quantity of Sordes is lodg'd in the Primæ Viæ. I have frequently known this emetico-laxative Medicine, with great Success, exhibited in the Beginnings of exanthematous and petechial Fevers, the purple Fever, the Small-pox, and Measles, especially when raging in Camps; as, also, in the Beginning of that Species of Fever, which is endemial to the *Hungarians*.

Since among the other Disorders in which Preparations of Manna are beneficial, we have asserted their Efficacy, about the Beginning and Eruption of the Small-pox, we shall now inquire, whether they may be, with equal Propriety and Safety, exhibited about the Maturation of the purulent Matter. Every one knows what terrible Dangers the Physician has to dread in the Small-pox, especially those of the confluent Kind, and what Prudence and Circumspection are necessary in order to avert and prevent these Dangers; for, as in the Small-pox in general, so more especially in those of the confluent Kind, it generally happens, that about the ninth Day, in consequence of a fresh Paroxysm of the Fever, an Increase of the Inflammation, and the Violence of the Pain, all the Symptoms are heightened, and the Condition of the Patient rendered manifestly worse. Then an uncommon Uneasiness is perceived about the Præcordia, the Patient breathes with Difficulty, his Restlessness is increased, and his obstinate Constiveness still continues. All these Symptoms proceed from no other Cause, than the vellicating, acrid, and caustic Matter, either retained in the Blood, or returning to whence it came, when, being denied a Passage thro' the Skin, it is again thrown into violent Commotions, and creates so much Uneasiness to the Patient. 'Tis, therefore, sufficiently obvious, that all the Hopes of the Patient's Recovery are justly to be placed in the due Excretion of this vellicating and acrid Matter.

In this Case, it may seem most expedient to follow the Tendency of Nature, and force the peccant Matter to the Surface of the Body, since this Method has hitherto been universally esteem'd the most safe and rational of all others. But there are, sometimes, very weighty Reasons to forbid it; for since it often happens, that the peccant Matter of the Small pox, convey'd to the internal Parts, and especially to the nervous Compages of the Intestines, is surprisingly detain'd there by the Obstruction of the Fæces, in consequence of which, the Inflammation is increas'd frequently, 'tis sufficiently obvious, that all bezoardic, alexpharmic, and other Medicines, which promote the Expulsion of this Matter to the Surface of the Body, are, at this time, so far from being proper, that they are rather hurtful and pernicious. And I cannot forbear looking upon it as a rash and hazardous Attempt, to solicit the variolous Matter deeply lodg'd in the Intestines, to the Skin. A far more safe and commodious Method is to remove the Constipation, and by a gently stimulating Laxative, to evacuate the putrid Fæces, and impure Sordes, by Stool.

For answering this Intention, unless the Clysters, prepared of the Ingredients appropriated to this Purpose, prove effectual, nothing is more proper than Manna, in consequence of its mild Operation; and I must, in this Case, recommend it above all other Medicines. In asserting this, I do not rely on my own Experience alone, since I have many great and learned Physicians concurring with me; and among the rest, the justly-celebrated *Sydenham* and *Freind*, who, in this Case, greatly extol lenitive Cathartics, and prefer Preparations of Manna to almost all other Medicines. *Freind*, in a particular manner, in his *Commentarii novem de Febris*, highly extols Purgatives, and especially Manna, in a putrid Fever, succeeding the confluent Small-pox; and sufficiently confirms this Doctrine not only by his own Observations, but, also, those of others, with respect to the happy Effects of Manna.

We now come, to give an Account of some of the most salutary Preparations of Manna: The first which we shall mention, is that used by the Emperor of Germany, when he drank the *Caroline Waters*; and which is prepared in the following manner:

Take of Cream of Tartar, two Drams; dissolve and boil in one Pint of Spring-water, to a Consumption of the half; add three Ounces of the best Manna, clarify the Liquor with the Whites of Eggs; adding the whole Juice of a Citron: Then let them boil gently together. When the Liquor is cold, strain it thro' a Linen Cloth, with Citron-peel in it, till it is highly clear and transparent. This Potion is, at once, highly efficacious, and singularly grateful to the Palate.

'Tis a laudable Custom used by some, in the Beginning of the Spring, to purge their Bodies from the Sordes they have collected

during the Inclemency of the Winter; and for this Purpose various Medicines are prepared and prescribed. But I myself, for this Intention, warmly recommend the following Infusion, of which six or eight Ounces are to be drank every other Day:

Take of the best Manna, four Ounces; of Currants, two Ounces; of the best Rhubarb, and crude Tartar, each an Ounce; of the Tops of the lesser Centaury, four Pugils; of Cinnamon, and Cardamoms, each a Dram: Infuse in a Pint and half of *Rhenish* Wine, and expose them to a due Degree of Heat for twenty-four Hours.

Besides these, there are many other Medicines prepar'd in the Shops, of which Manna is either the Basis, or an Ingredient; of these the most considerable are the Electuarius Diacassia with Manna, the Lenitive Electuary with Manna, and the Syrup of Manna; the Use of which may be more commodiously supplied by the following Medicine:

Take of the best Manna, one Pound; dissolve and boil with a gentle Heat, in a Pint and an half of the Water of the Flowers of *Egyptian* Thorn: Infuse in it, when warm, of the Flowers of the Peach-trees, *Egyptian* Thorn, and Violets, each an Handful; inspissate the strain'd Liquor over a gentle Fire, and, as it becomes cold, add twenty Drops of the Oil of Cedar.

Among the Pharmaceutic Preparations we may, also, reckon the liquid Manna, the Preparation of which is given by *Schroeder* in *Pharmac. Chym.* and amended by *Frederic Hoffman* in his *Clav. Schroed.* where he, also, gives Directions for preparing the Manna Julepata, and the Manna Tartarizata: But though these are, considered in themselves, sufficiently valuable Medicines, yet it easily happens, that they do not answer the Expectations of those who use them, because in preparing them the Manna is, by the violent Heat and Boiling, often deprived of its Virtues.

We now come, in the last Place, to treat of those Medicines which are obtain'd from Manna by the Force and Influence of Fire. With respect to these, what *Hellmont* says in his *Treatise de Potestat. Medicam.* is absolutely true; which is, that by a chymical Analysis Substances of new Qualities, which had no previous Existence, are produced from it, and that the Manna itself becomes acrid, by means of the Fire. I myself attempted the Distillation of Manna in a Sand Heat: For which Purpose putting about four Ounces of it in a Retort, previously warm'd with Sand, and increasing the Fire a little, I first obtain'd an acid Liquor, and afterwards one of a dark-red Colour, of a thicker Consistence, and an empyreumatic Smell. Of the former I had about an Ounce, and of the latter about a Dram and an half. As for this acid Liquor obtain'd from Manna, and commonly called its Spirit, 'tis universally agreed upon, that it is sudorific; the Reason of which is, without Doubt, to be ascribed to the empyreumatic Particles with which it is mix'd. This Liquor, also, proves a Menstruum for the Dissolution of some Bodies: In order to make the Experiment, I threw both Coral and Steel into some of this Liquor; and, after they were dissolved, I was furnished with the Tinctures of Coral and Steel, possess'd of the same Virtues with those prepared in the common manner by somewhat acid Menstruums. On the contrary, in this Liquor, there did not happen a perfect Solution of Sulphur, as *Schroeder* in his *Pharmac.* and after him *Charas* in *Pharmac. Reg.* assert. But the thick, redish, oleous, and grumous Liquor had an highly empyreumatic Smell, exactly resembling that of Sugar thrown on live Coals; and was capable of being mixed both with Water and Spirit of Wine, in each of which it was quickly dissolved. Nor is it to be doubted but ten Drops of this Liquor are capable of exciting a liberal and profuse Sweat.

From what has been said 'tis sufficiently obvious, that the Use of Manna has been hitherto unjustly rejected by Physicians, and that it justly recommends itself to the modern Practitioners; for I cannot forbear advising the Professors of the Healing Art carefully to abstain from all violent and drastic Purgatives, since they are sometimes productive of so formidable Consequences, as are hardly to be dreaded from the most terrible Disorder; for which Reason *Casimirus*, in his *Treatise de Crisr. Medicam.* justly calls them deleterious and cursed Medicines. Rejecting, therefore, Coloquintida, Scammony, White Hellebore, Turbith, Elaterium, Spurge, and what was only discovered in the latter Age, Gamboge, let Physicians substitute, in their Rooms, far more safe and innocent Medicines, such as neutral Salt, Manna, Rhubarb, Tamarinds, Cassia, and Aloes duly corrected and prepared, especially since, by sufficiently large Doses of these gentle Laxatives, the same Effects may be obtained, as by the more acrid, drastic, and offensive Purgatives. *H. Hoffman.*

Manna may be render'd of a vinous Quality, by dissolving it in Water, in which a Fermentation may be produced in the following manner:

Dissolve two Pounds of the best Manna, in eight Pints of pure River-water. Strain the Solution, and put about a

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third Part of it to be evaporated into an earthen Vessel, placed in a Sand-heat. Pour the remaining Part of the Liquor into Bottles, which are to be cover'd with a Piece of single Paper, and expos'd to the Influence of the Sun, and the Heat of the Fire, for six Months. By this means the Liquor will assume a vinous Quality, and this Wine of Manna will resemble the vinous Hydromel; only it will be neither so strong, nor so agreeable to the Taste.

This Wine gently purges serous Humours, and the Dose of it may be from three to six Ounces: If this Wine is subjected to Distillation in Balneo Mariæ, or in a Vapour-bath, we obtain from it a spirituous Liquor resembling Aqua Vitæ; and by Rectification, in the ordinary manner, it yields an inflammable Spirit like Spirit of Wine, but which still retains some Smell of the Manna. This Spirit is, also, possess'd of the same Virtues with the Spirit of Wine.

If, after extracting this inflammable Spirit of Manna, we put the Liquor remaining in the Alembic, and suffer it to remain there for a considerable time, it will insensibly ferment a second time, and become sour. Then we find, at the Bottom of the Vessel, a white essential Salt of Manna, which is hard, brittle, of the crystalline Kind, and formed into Needles resembling those of the essential Salts of Plants. This Salt is, also, of an acid and somewhat sweetish Taste; and a Dram of it taken in Broth proves purgative.

MANOBÏ. *Lemery* calls this a Fruit, but describes it as a Truffle, which grows in *Brasil*, of a very good Taste. It is said to fortify the Stomach.

MANSORIUS *Musculus*. The Masseter.

MANTICHORA, *μαντιχορα*. The Name of an *Indian* Animal, which, according to *Aristotle*, is furnished with a triple Series of Teeth.

MANTILE. The Name of a Bandage. See *FASCIA*.

MANUCODIATA. The Bird of Paradise.

MANUS. The Hand. See *BRACHIUM*. Certain Troches made of Sugar of Roses, with an Addition of Pearls, are called *Manus Christi perlata*; but without the Pearl *Manus Christi simplices*.

Mannus Dei is a Name for a vulnerary, resolvent, and fortifying Plaster, described in *Lemery's Pharmacopée Universelle*.

MANUTIGIUM. Rubbing with the Hand. *Cælius Aurelianus*, *Acut. L. 3. C. 17.* and *Chronic. L. 1. C. 4.*

MANYL-RARA. H. M. The Name of a very tall Tree, which grows in the *East Indies*, bearing a Fruit not unlike an Olive, which is used, when ripe, in Food, and is much esteem'd for exciting the Appetite, and promoting Digestion. Of the Leaves boiled with Turmeric-root, and the Leaves of Ginger, and contus'd, a Cataplasm is made, which powerfully ripens Tumors. Of the Leaves boil'd in Oil of *Sesamum*, with an Addition of the Root of this Plant pulveriz'd, an Ointment is made, which is said to be excellent in the endemial Distemper of that Country, called *BERIBERI*.

MANZIZANION. A Name for the *Colocasia*. *Actius. Tetrabib. 1. Serm. 1.*

MAON. A Name for the *Tugetes*; *Indicus*; *minor*; *multiplicato flore*.

MARACOT. A Name for the *Granadilla*; *Hispanis*; *Flos Passionis Italica*.

MARAGOSA. A Name for the *Momordica*; *Zeylanica*; *pampinea fronde*; *fructu breviori*.

MARANDA *Zeylanensis*. *Myrtus Zeylanica odoratissima Baccis niveis monococcis*. *Herman*.

This is a Species of Myrtle, which grows in the Island of *Zeylon*, bearing a small Berry. A Decoction of the Leaves is said to be excellent against the Venereal Disease, if a slender Diet is, at the same time, observ'd.

MARASMODES, *μαρασμός*. The Name of a Hætic Fever, in its last and worst Stage.

MARASMUS, *μαρασμός*, from *μαρσίνω*, to render lean, or tabid. An Atrophy, or Consumption, in its last and most deplorable Stage, is thus called.

MARATATABIBA. The Name of a Tree, which grows in *Brasil*, to which I find no medicinal Virtues ascrib'd.

MARATHRITES, *μαραθρίτης*. Wine impregnated with Fennel. *Dioscorides. L. 5. C. 75.*

MARATHRUM. A Name for the *Feniculum*; *vulgare*; *Germanicum*.

MARAUGIA. A Sort of Shell-fish, as it should seem, of the Lobster-kind, mentioned by *Oribasius*, *Collect. Medic. L. 2. C. 58.*

MARCASITA, *Marcasite*, is a sort of metallic Mineral, making as it were, the Seed, or first Matter of Metals.

On this Principle, there should be as many different *Marcasites* as Metals, which is true in Effect, the Name being apply'd to every mineral Body that has metallic Particles in its Composition, though not enough to make it worth working; in which Case it would be called Ore.

There are only three Kinds in the Shops, which are, *Marcasite of Gold*, of *Silver*, and of *Copper*; though some repute the

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Loadstone, *Marcasite of Iron*; *Bismuth*, *Marcasite of Tin*; and *Zink*, or *Spelter*, *Marcasite of Lead*.

Marcasites are found in Mines of Metals; they all contain Sulphur, and a vitriolic Salt, especially that of Copper: Some of them, also, contain Antimony and Bismuth.

MARCELLIUM, *μαρκέλλιον*. The Name of a Medicine said to be good against Chilblains. *Paulus Ægineta, L. 3. C. 79.*

MARCELLUS EMPIRICUS. This Author was of *Bordeaux*, and wrote, in the time of *Gratian* and *Theodosius*, the Book now extant under his Name, *de Medicamentis*.

MARCHED Litharge. *Rulandus*.

MARCHIONIS Pulvis. The Marquis's Powder. This is thus directed in the *Leyden Dispensatory*.

Take of Male Peony-roots, half an Ounce; of the Wood of Mistletoe of the Oak, Rasplings of Ivory, Elks Hoof, Spodium, the Tooth of the Unicorn Fish, or, in its stead, the Antlers of an Hart's Horn, red and white Coral, and prepar'd Pearls, each a Dram; twenty Leaves of pure Gold. Make a Powder. This is design'd for an Antiepileptic, and Absorbent.

MARTIANI ANTIDOTUS. The Name of an Antidote described in *Marcellus Empiricus, C. 177.*

MARCIATON, *μαρκιατόν*. The Name of an Unguent in *Paulus Ægineta, L. 7. C. 18.*

1. MARGA. Offic. Schrod. 320. Mer. Pin. 218. Aldrov. Mus. Metall. 221. MARLE.

This is not only of various Species, but, also, of different Colours, such as redish-brown, Grey, and Yellow. It is a sort of pinguious and medullary Substance, found in some Stones and Rocks, when they are split. It is of a drying, constricting, consolidating, and sarcotic Quality; but resolves Tartar, and coagulated Blood. *Schrod. Kentman* enumerates various Species of Marles, such as the white, the pinguious, the soft, the subcineritious, and the Stony Marle, used by Artists for making Images; the yellow, and the crustaceous Marle, which is found in sandy Ground, and contains some Portion of Gold; and the hard, yellow, and sandy Marle found in *Holland*, with which the Inhabitants, as in other Countries, dung the Land. *Dale*.

2. MARGA SAXATILIS CINEREA. Offic. Worm. 6. *Marga Goselaria cineraria*. Agric. 579. *Marga Goslarica*. Charlt. Foss. 4. ASH COLOURED MARLE.

This Species of Marle is found in the Cavities and Fissures of Rocks, consists of thick Crufts, is of a cineritious Colour, and a somewhat acrid Taste. It is of an astringent emplastic Quality, and stops Hæmorrhages; when externally applied, it agrees in Virtues with the *Samian Earth*. *Dale*.

3. MARGA SAXATILIS INCARNATA. Offic. Worm. 6. Charlt. Foss. 4. REDISH MARLE.

This Species is produced in the Mountains of *Bohemia* and *Liege*: It is a pinguious, lubricous, and ponderous Earth, of a carnation Colour, adhering to the Tongue, and tinging the Fingers with a yellowish Hue. This kind of Marle is not only beneficial in Ruptures, Fractures, Deffluxions, Hæmorrhoids, and Dysenteries; but, also, resists Poisons, and pestilential Disorders. *Dale*.

4. MARGA CANDIDA. Offic. *Marga Feroensis*. Charlt. Foss. 4. *Marga ex insulis Feroensibus*, Worm. 6. *Stenomarga*. Agric. 578. Morton. Northamp. 62. *Agaricus mineralis*. Imper. 129. Cod. Med. 5. *Lac Lunæ*. Woodw. Att. 8. Plot. Ox. 58. Boer. 413. WHITE STONE MARLE.

This is found in *Germany*, and is a fungous, white, and friable Substance. It is of an astringent, and refrigerating Quality; stops Hæmorrhages, and immoderate Discharges of the Menfes. The Powder of it is, by Surgeons, sprinkled upon Ulcers, in order to dry and consolidate them. *Gesner*. It is esteemed a powerful Cosmetic. *Plot. Anselmus Boetius*, when it is hard, refers it to the Lapis Galactites; but, if soft, he makes it a Species of Marle; for he is of Opinion, that the Morochthus, the Galactites, and the Lapis Melitites, are only indurated Marle. *Dale*.

MARGARITÆ & Uniones. Pearls.

These are a kind of Bezoar, bred in Oysters; and accordingly they consist of several Strata, and are really stony Concretions. The best Oriental Pearls are found in the Island of *Ormuz*, in the *Persian Gulf*: They are likewise gathered in the Gulf of *Mexico*, in the Province of *Costa Rica*, and in several other Places of *America*; but these Occidental Pearls are less esteemed than the former. Small Pearls, commonly called Seed-pearls, are, likewise, found on the Coasts of *Scotland*. Sometimes they are found from two to seven in one Oyster; which shews how unjustly they are termed *Uniones*, as if there were only one in each Shell. *Valentini*, on the Credit of one *Kregger*, pretends, they are the Eggs of these Animals; but this needs Confirmation. When thrown into the Fire, they give an urinous Smell, in a small Degree: They may sometimes be whitened by taking off the outer Stratum, when yellowish; but this diminishes their Size. Pearls are a very good Absorbent, being levigated on the Porphyry,

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Porphyry, like Crabs-eyes; but they have, likewise, other Qualities, since they yield a volatile Salt by the Retort, being, on that account, cordial and depuratory. *Geoffroy*.

MARILE, *μαρίλη*. In *Hippocrates*, *Lib. 2. de Morb. Mulier.* it seems to imply exactly what we call Embers.

MARIPENDAM. De Laet. *Balsamum fructu racemoso ex Hispaniola*. C. B. *Novum Fructu racemoso*. J. B. It sometimes rises to the Height of two Men, with an Ash-coloured Stalk, and green Leaves, standing on redish Pedicles; the Fruit grows in Clusters. They gather the young Buds, and tender Shoots; to which some add the Clusters of Fruit, and express the Juice; this they boil in Water to one half, or less, till it is reduced to the Consistence of Honey, or Sapa; then let it settle, and set it aside for Use: It is an excellent Remedy for Wounds and Ulcers, cleansing them, and repressing the Blood. From the Tops is distilled a Water more precious than Aqua Vitæ, being very serviceable in Wounds, and all Diseases proceeding from Cold; as Pains of the Stomach, or any other Part, if it be drank for some Days together. *Raii Hist. Plant.*

MARIS, according to *Castellus*, and *Linden*, is a Measure containing eighty-three Pints, and four Ounces.

MARISCA. An Excrescence about the Anus; the same as *Ficus*. See ANUS.

MARITUS. Authors who write about the Philosophers Stone, call Sulphur the *Maritus*, or Husband, and Mercury the *Uxor*, or Wife.

MARMARYGÆ, *μαρμαρυγαι*, imports Sparks, or Coruscations, which seem to flash before the Eyes.

MARMELADA. Marmelade. A Pharmaceutical Term, at present better known to the Confectioners than Apothecaries. It is usually applied to a sort of Jelly of Quinces.

MARMELOS. The same as MARMELADA.

MARMOR ALBUM. Offic. Worm. 42. *Marmor candidum*. Aldrov. Mus. Metall. 749. Kentm. 52. *Marmor*. Schrod. 354. *Marmor Parium*. Boet. 489. Charlt. Foss. 17. WHITE MARBLE

It differs from Alabastrer only in Hardness, and in Splendor, when polished. *Galen* tells us, that, taken internally, it dissolves the Stone.

MARMORARIA, or MARMOLARIA. A Name for the Branca Ursina. *Blancard*.

MARMORATA *Aurium*. Ear-wax.

MARMOREUS *Tartarus*. The hardest Species of human Calculus. *Rulandus*.

MARMORACEA *Venena*. Poisons of such Efficacy and Virulence, that they produce Death, if taken only in a Quantity equal to a Grain of Wheat in Weight. *Castellus*, from *C. Rejes*.

MARMOTA. A Marmot, a sort of large Mountain-Rat, very common in the *Alps*. See MUS ALPINUS.

MAROCOSTINUM. An Epithet for a cathartic Extract, described by *Zwelfer*, in the *Pharmacopœia Augustana*. It takes the Name from *Marum*, and *Costus*, two of the Ingredients.

Lemery, in his *Pharmacopœe Universelle*, describes this under the Name of *Pilula Marocostina*; and gives another Prescription for the *Pilula Marocostina Reformata*. *Bates* has taken the former into his *Pharmacopœia*. *Quincy* describes the *Pilula Marocostina*; but somewhat different from *Zwelfer*; thus,

Take Gum Ammoniac, one Ounce and an half; Myrrh, six Drams; Aloes, one Pound; Agaric, six Drams; Rhubarb, three Ounces; Saffron, half an Ounce; Costus, six Drams; Aloes-wood, two Drams; Mastich-herb, half an Ounce: Make a Decoction of the six last Ingredients, in two Pounds of Damask Rose-juice, and a sufficient Quantity of common Water; which press out hard, and put to it the Ammoniacum and Myrrh, strained in four Ounces of Vinegar of Squills, and, with the Aloes, evaporate all together to a due Consistence.

It is originally from *Mindererus*, and was calculated to purge off pituitous and watery Humours, which lodge in the Habit of the Body, and produce Dropsies, and other chronical Disorders. It is, also, commended for expelling tartarous Humours, and cleansing the Liver, and Kidneys. And it has obtained the Reputation of being a Strengtheners of the Head and Stomach, and good against all Diseases arising from the Disorders of those Parts. The Dose is from fifteen Grains to two Scruples; but this Medicine is seldom made.

MAROGUS. A very strong Narcotic. *Paracelsus*.

MAROTTI, H. M. is a tall Tree, growing in *Malabar*, with Leaves like those of Bay, and bearing a round-oblong Fruit, including a very large, hard, and yellowish Stone, containing ten or eleven Kernels.

The Oil, extracted from the Seeds or Kernels of the Fruit, cures Pains, and cures the Scabies and Itchings, being rubbed on the Parts: It is good, also, for Eyes infested with salt Humours; and, mixed with Ashes, it is successfully applied to Impostumes and Abscesses in Cows, and other Cattle, and Beasts of Burden. *Raii Hist. Plant.*

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MARULLIUM, *μαρούλλον*. The Lettuce. *N. Myrpsus*, *Secl. 1. Cap. 74*.

MARRUBIASTRUM.

The Characters are;

The little Flower-cup is cut into five small Segments, upon each of which a small Spine is produc'd; the Galea of the Flower is almost entire and plain; the Beard trifid, with a large entire Segment in the Middle, so as to make the Floscule appear quadrifid. The Flowers are produced in thick Whorles.

Boerhaave mentions six Species of this Plant; which are,

1. Marrubiastrum; sideritidis folio; caliculis aculeatis; flore candicante. *T. 190. Sideritidis genus, spinosis verticillis*. J. B. 3. 428.

2. Marrubiastrum; sideritidis folio; caliculis aculeatis; flore flavo cum limbo atro-purpureo. *T. 190. Sideritis montana, parvo flore nigro-purpureo, capite medio croceo*. Col. 1. 196. *Sideritis montana, parvo, varoque flore*. C. B. P. 233.

3. Marrubiastrum; sideritidis folio; caliculis aculeatis; flore flavo cum limbo atro-purpureo; comâ flavescente. *T. Cor. 12*.

4. Marrubiastrum; folio Cardiacæ. *Boet. Mus. p. 2. Tab. XCVIII*.

5. Marrubiastrum; palustre; fortidum. *T. 190. Lamium paludosum, Belgicum, Melissæ folio*. H. L. *Sideritis, Alfinæ, hexaginis folio*. C. B. Prodr. 111. M. H. 3. 389.

6. Marrubiastrum; folio Cardiacæ; odore Melissæ. *Boerb. Ind. alt. Plant.*

MARRUBIUM.

The Characters are;

The Leaves are wrinkled; the Calyx is long, and generally furnished with five aculeated Appendicula; the Galea is erect, with two Horns; the Beard tripartite, with oblong slender Fauces.

Boerhaave mentions nine Species of this Plant; which are,

1. Marrubium; album; vulgare. C. B. P. 230. *Park. Theat. 44. Tourn. Inst. 192. Boerb. Ind. alt. 156. Marrubium album, Præstium*. Offic. *Marrubium album*. Ger. 561. Emac. 693. *Raii Hist. 1. 556. Synop. 239. J. B. 316. WHITE HOREHOUD*.

Horehound has square, white, hoary Stalks, about a Foot high, having two Leaves at a Joint, which are rugged, white, and downy, roundish, and blunt-pointed, and serrated about the Edges, standing on pretty broad Foot-stalks: Among these grow very thick Whorles, of white, labiated, and galeated Flowers, standing in stiff hoary Calyces; which end in nine or ten hard, and almost prickly, Spinulæ; each Calyx contains four small longish Seeds; the Root is woody, hard, and full of Fibres: It grows by the Sides of Roads, and in Lanes; and flowers in *June*. The Leaves and Tops are used.

They are hot and dry, pectoral, and good to free the Lungs from hot viscid Phlegm, and thereby to help old Coughs, especially in cold moist Constitutions; the Juice being made into a Syrup, with Sugar or Honey, they open Obstructions of the Liver and Spleen, and are very serviceable against the Dropsy, Jaundice, Green-sickness, and Obstructions of the Catamenia, and Suppression of the Lochia, and other Distempers of the Female Sex; for which few Herbs go beyond it.

Official Preparations are only the Syrupus de Præstis. *Miller's Bot. Off.*

The Leaves of the white Horehound give no Tincture of Red to the blue Paper; they are very bitter, and have a penetrating Smell. It is probable, that in *Flanders* this Smell may approach to that of Musk; for *Dodonæus* affirms it does so. The bitter natural Salt of the Earth, composed of marine Salt, Sal Ammoniac, and Nitre, seem to be united in this Plant, with a considerable Quantity of Sulphur, Phlegm, and terrestrial Parts.

This Plant, by the chymical Analysis, yields a great deal of acid Phlegm, Oil, and Earth; a little urinous Spirit; some concreted, volatile, and a fixed Salt, a little lixivial.

Thus it is no Wonder, if the white Horehound should be a great Dissolver, and a good Aperitive; and excellent for those who have the Asthma or Jaundice. The Juice of this Plant is given to drink, from two Ounces to six, for Rheums and stubborn Coughs: One Glass-full of the Infusion in White-wine, and several Glass-fulls of Pilsan, two Pugs of the Tops of white Horehound, are sufficient for one Decoction: But the Fat must first be taken off, by straining it through a wet Cloth, and dissolving it in half a Dram of chalybeated soluble Tartar; or twenty Grains of the chalybeated Flowers of Sal Ammoniac; one or two Ounces of the Syrup of Horehound; two Drams of the Tincture of Steel, and two Ounces of Orange-flower-water, may be prescribed for the Suppression of the Menfes. *Tabernemontanus* recommends the following Pilsan for a Retention of Urine:

Boil in four Quarts of Water, one Handful of Horehound-leaves, and as much Rosemary; half a Pupil of Parsley-seeds; one Ounce of dried Currants; and as much Sebestens and Jujubes; add, at last, one Stick of Liquorice, and three Spoonfuls of Honey. *Martin's Tournesfort*.

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The *Syrupus de Præssio Menses* is a very hot Medicine, as *C. Hoffman* observes; and fitter for old than young Persons, for cold than hot Constitutions.

Take of Syrupus de Præssio, two Ounces; Oil of Tartar per Deliquium, one Scruple: Mix them.

The Dose is one Spoonful, at frequent Intervals. There is no better Remedy than this for the Jaundice.

Dioscorides says, that Marrubium is hurtful to the Bladder and Kidneys, which, by frequent Use, it exulcerates. The Antients used Marrubium as an Errhine in the Jaundice, to purge Bile by the Nostrils, which often infests the Eyes in a very stubborn manner. The Tops of white Horehound, infused in White-wine, and drank for three Days together, I have found by innumerable Experiments, says *Boerellus, Obs. Med.* to be of surprising Efficacy in provoking the Menses, [*Simon Paullus* adds, speedily expelling the Secundines] corroborating the Stomach, and removing a Cachexy, and the Pica in Virgins; and the same is still more effectual, if mixed with Germander, and the lesser Centaury.

Conserve of the Flowers of Horehound, prepared with Honey, and exhibited to the Quantity of an Ounce, for forty Days successively, restored a Man of Distinction, who had long laboured under a Scirrhus of the Liver, to perfect Health, after other Medicines, such as Chalybeates, and Preparations of Ebony, had proved unsuccessful. *Simon Pauli, Quadripartit.* from *Zacutus Lusitanus, Prax. Admir. Lib. 2. Obs. 48.* But I find in the Observations collected from *Chefneau*, and sent me by my learned Friend Dr. *Hulse*, a Physician in London, that this Person drank every Morning after the Conserve, a small Quantity of the Water distilled from Horehound, and its Roots. *Raii Hist. Plant.*

2. Marrubium; folio rotundo, candidissimo.

3. Marrubium; album; latifolium; peregrinum. *C. B. P.* 230. *M. H.* 3. 377.

4. Marrubium; album; angustifolium; peregrinum. *C. B. P.* 230. *M. H.* 3. 377.

5. Marrubium; verticillatum; foliis profundè incisis. *Boerb. Ind. alt. 156.* *Alyssum Galeni.* *Offic. Ger. 379.* *Emac. 465.* *Alyssum Galeni Clusio.* *Park. Theat. 590.* *Alyssum verticillatum foliis profundè incisis.* *C. B. P.* 232. *Marrubium Alysson dictum.* *Raii Hist. 1. 557.* *Marrubium, Hispanicum, supinum, calyce stellato & aculeato.* *Tourn. Inst. 192.* *GALEN'S MADWORT.*

This is cultivated in the Gardens of the Curious, and flowers in June. The Herb is in Use, which agrees in Virtues with the white Horehound. *Dale.*

6. Marrubium; Hispanicum; supinum; foliis sericeis, argenteis. *T. 192.*

7. Marrubium; folio candidissimo, orbiculari, crassissimo.

8. Marrubium; album; peregrinum; brevibus & obtulis foliis. *C. B. P.* 230.

9. Marrubium; Orientale; foliis subrotundis; flore purpureo. *T. C. 12.* *Boerb. Ind. alt. Plant.*

MARRUBIUM is, also, a Name for the *Pseudo-dictamnus*; *Hispanicus*; *amplissimo folio candicante & villosa*; and for the *Pseudo-dictamnus*; *Africanus*; *foliis subrotundis, subtus incanis.*

MARRUBIUM NIGRUM. See BALLOTE.

MARRUBIUM NIGRUM LONGIFOLIUM. A Name for the *Phlomis*; *Narbonensis*; *folio Hormini*; *flore purpurascente.*

MARS.

Ferrum. *Offic. Aldrov. Mus. Metall. 129.* *Fabr. 22.* *Charlt. Foss. 47.* *Worm. 122.* *Mer. Pin. 208.* *Schrod. 377.* *Schw. 378.* *Ferrum. Mars. Mont. Exor. 13.* IRON.

Common Iron, called *Sidus* in Greek, *Ferrum* in Latin, and *Mars* by the Chymists, is an ignoble, very hard, and sonorous Metal; which, when polish'd, is of a shining Colour, between white and livid; but, when unpolished, of a black Colour. Iron is of two Kinds, common and purified: This last is termed *Acies*, *Chalybs*, or *Steel*. No Metal is so necessary for the Uses of Life as Iron; nor is any Metal found in so great Quantities, almost in every Country: It is dug out of the Earth in very different Forms. In some Mines it is found pure, either granulated, or in Lumps; in others it is met with in an heavy Stone, of a dark-yellow, or redish Colour; or in an heavy, yellowish, or red Sand. Some Ores yield the pure Metal contained in them with little Trouble, requiring only to be broken into small Pieces, and so to be melted with Charcoal, in the Space of a few Hours: Other Ores require a great deal of Labour to melt them; and, also, the Addition of Quick-lime, Marle, or Stones, to facilitate the Fusion. The melted Metal is run into large Molds, and hardens into long thick Masses: These Masses are melted a second time; the flowing Metal being continually stirred with an Iron Rod; and, when harden'd, it is beat with great Hammers, till all the heterogeneous, vitrified, or burnt Parts are separated. Iron, thus prepared, may be forged into any Shape, by being first ignited, and then beat on the Anvil with Hammers. All Iron is not, however, of the same Goodness; the toughest is the best, and that which is most brittle of the least Value. This Difference does not proceed from the Metal itself, but from the Mixture of earthy and vitriolic Parts.

Steel is made of Iron by frequent Fusion and Purification; and in the Iron of some Mines, this Conversion is easily obtain'd; in others, more difficultly; and, accordingly, the Ways of performing it are different. If the Iron be very good, it is melted in Furnaces; and to the melted Metal are added, gradually, equal Parts of Salt of Tartar, or any other alkaline Salt, Filings of Lead, and Shavings of Bullocks Horns, the Metal being kept continually stirred. Afterwards the harden'd Mass is beat into small Bars on an Anvil. But, if the Iron cannot be thus melted, they take Bars of about an Inch Diameter, or less, and lay them *Stratum super Stratum* in a proper Earthen Vessel, with a Mixture of equal Parts of Soot, Charcoal-duft, and Filings of Bullocks or Cows Horns, or Hairs. When the Vessel is full, it is cover'd and coated with a proper Lute, and set in a reverberatory Furnace. The Fire is gradually increased, till the Vessel is red-hot, and continues so for seven or eight Hours: Then, the Fire being suffered to go out of itself, the Iron Rods are taken out, changed into Steel: This is known by breaking them; for if the shining metalline Sparks are very small, and very close together, through the whole Thickness of the Bar, the Steel is very good; but if they are at greater Distances from each other, and have visible Pores between them, the Steel is of less Value. Sometimes these Sparks are very close together near the Surface of the Bar, but more distant towards the Center; which is a Sign that the Calcination was imperfectly made; and then the Calcination is to be repeated till the Change be thoroughly completed.

Iron is the hardest of all Metals, and Steel is still harder, and more rigid, than Iron, if, being ignited, it be thrown into cold Water. Its specific Gravity is to that of Gold nearly as three to seven. Iron, long steeped in Water, communicates to it a ferrugineous Taste, being dissolved by the Water, and turned to a yellowish Rust. This Solution may be performed in a little time, if the Iron be successively wetted with Water, and then dried, for several times; but, if suffered to remain in the Water without ever being dried, it is a long time before it is corroded. This makes it so difficult to preserve Iron from Rust; for which the best way is to rub it over with some oily Substance. Filings of Iron, laid in a Heap, and sprinkled with Water, will grow so hot as to set Fire to Sulphur, if the Heap be large. By calcining Iron in a reverberatory Furnace, it is reduced to a Calx of a dark-red or purplish Colour. When ignited in a strong Fire, till it be near melting, and then beat by the Hammer, it throws off Scales, which are nothing but half-vitrified Iron. When it is melted in the refining Furnaces, a Part of it, mixed with the Charcoal, or other earthy Parts, runs into Scoriae, which are a kind of Glass. This Metal is dissolved by all Acids; but left untouched by alkaline Salts. Filings of Iron, thrown upon any Flame, take Fire, and emit green or red Sparks. These Filings, mixed with an equal Portion of Nitre, presently make an Ebullition, and emit copious Fumes of a fetid Smell, then flash, and deflagrate. If the Filings are put into Spirit of Sea-salt, or of Vitriol, a violent Effervescence and Fumes are raised. The Fumes are entirely sulphureous; and, if a lighted Candle be held to them, they flame immediately, fulminating, and often breaking the Vessels. Iron, exposed to the Focus of a Burning-glass on a Tile, presently melts, emits Fumes, and then becomes a brittle half-vitrified Substance: But, if laid on a Piece of Charcoal in the same Focus, it presently melts as before, and then flies wholly off in Sparks. If the half-vitrified Substance, just mentioned, be exposed on a Piece of Charcoal, it presently recovers the Form of a Metal, that is, the shining Colour and Ductility, and afterwards is wholly dissipated in Sparks. From these Experiments it is evident, that Iron consists of a large Proportion of a bituminous Substance, which, being united with a vitriolic Salt, is involved in so large a Quantity of vitrifiable Earth, as difficultly to deflagrate with Nitre. That the vitriolic Salt is, likewise, in a considerable Quantity, is evident from the Solubility of Iron in simple Water, which arises from the Action of these Salts on the metallic Earth. There is, however, some Difference between the Sulphur contained in Charcoal, and that contained in Iron; since Iron, restored by the Mixture of Charcoal-sulphur, and exposed to the Rays of the Sun in the Focus of a Burning-glass, flies off entirely in Sparks. Iron, therefore, consists of a bituminous inflammable Principle, a vitriolic Salt, and a vitriolic vitrifiable Earth. This Earth, united with any inflammable Substance by Fire, will become Iron, which accordingly happens in burning any inflammable Bodies, in the Ashes of which Iron discovers itself to the Magnet, though before no Signs of Iron are discoverable in these Substances, even when reduced to the finest Powder.

Iron is the most useful of all Metals for human Life; for, besides the innumerable Kinds of Instruments made of it, it furnishes excellent Remedies in many Diseases. The medicinal Virtues of Iron, taken inwardly, were not unknown to the Antients. *Dioscorides* attributes to it an astringent Virtue, and recommends it in uterine Hemorrhages. He, likewise, orders Wine, or Water, in which a red-hot Iron has been quenched, in the Celiac Passion, Lienery, and Dysentery, and for restoring weak Stomachs. Physicians now acknowledge a twofold Virtue in Iron,

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one aperient, the other astringent; for it is observed to cure a Suppression of the Menstrues, to open Obstructions of the Liver, Spleen, and other Viscera, to stop Hæmorrhages and Diarrhœas, and to strengthen the relaxed Fibres of the Intestines. On these Accounts it is reckoned the grand Specific in hypochondriacal Affections, and all kinds of Chloroses. Some attribute an aperient Virtue to some Preparations of Iron, and an astringent Virtue to others; but the Truth is, all these Preparations are both astringent and aperient, though not in the same Degree.

For medicinal Uses, Iron is preferable to Steel; and the Filings of Iron, reduced to an Alcohol, or impalpable Powder, are preferred, by many, to all other Preparations, in promoting the Flux of the Menstrues, and in removing Obstructions of the Viscera, being given from twelve Grains to half a Dram, once or twice in a Day, in Pills, Lozenges, or Boluses.

Take of Filings of Iron finely powdered, and passed through the Sierce, half an Ounce; of powdered Cinnamon, half a Dram; of the Mucilage of Gum Tragacanth, a sufficient Quantity to make Pills. The Dose of these Pills is a Scruple, to be taken in the Morning, on an empty Stomach, and repeated four Hours after Dinner, drinking afterwards a Glass of Wine and Water.

Take of finely powdered Filings of Iron, an Ounce; of Cinnamon, one Dram; of Cloves, one Scruple; of white Sugar, dissolved in any pleasant Simple-water, and then boiled to the Consistence of a solid Electuary, four Ounces: Mix them together, and make Lozenges, the Dose of which is two Drams, Morning and Evening.

Take of the fine Filings of Iron, two Drams; of the Powder of dried Arum-roots, three Drams; Crystals of Tartar, two Drams; Gum Ammoniac, Myrrh, Cinnamon, and Nutmeg, of each a Dram; Powder of Saffron, half a Dram; Syrup of Wormwood, a sufficient Quantity to make an Opiate, or soft Electuary. The Dose is two Drams, to be taken Morning and Evening in a Chlorosis.

Filings of Iron, tied up in a Linen Bag, are, likewise, prescribed to be infused in aperient Apozems, and alterative Broths. *Geoffroy.*

Sydenham tells us, "he has been informed, that the crude Ore of Iron is more efficacious in curing Diseases, than Iron which has been refined by Fusion; but, for the Truth of this," says he, I had only the Author's Word, not being assured of "it by my own Experience."

Some Years ago, at a Place in *Cheshire*, I saw some Labourers taking out of a Ship something which tinged their Skins in such a manner, as to make them resemble a bronzed Statue, only the Colour was more inclined to red. I found it was a particular sort of Iron Ore, of the Consistence of a fat Bole, which the Manufacturers of Iron call *Cumberland Ore*, though, I am informed, it is produced in *Lancashire*. Upon Enquiry, I was told, that if these Labourers washed themselves ever so clean, and afterwards used any Exercise to make them sweat, they immediately became of the same Colour. This Circumstance made me conclude, that this Sort of Ore consisted of extremely fine Particles. I was farther assured, that these Labourers, whose constant Employment it was to unload Vessels of this Ore, were very healthful, and never affected with Asthmæ, Gripings, or any of those Disorders which some metallic Ores are subject to communicate. Reflecting, therefore, upon what *Sydenham* relates, as quoted above, I procured some of the Ore, and, upon Experience, I found it equal in Efficacy to most of the celebrated Preparations of Iron; though I cannot say much superior. I must, however, remark, that it readily unites with Mercury by Trituration, as in making *Æthiops Mineral*, in proportion of two Parts Mercury to three of the Ore; and thus a beautiful red Martial Cinnabar is found of considerable medicinal Virtue.

PREPARATIONS OF IRON.

Dr. WILLIS's Preparation of STEEL.

Take clean Filings of Iron, and Cream of Tartar in fine Powder, of each a like Quantity: Mix them well, and make them into a Paste, with White-wine; then set them to dry in the Sun, or other gentle Heat: Break it, and, if it has not acquired a greenish Colour, powder it, moisten, and dry it, as before.

This Preparation is as opening as any which are made of this Mineral, and is conveniently enough administered in Boles or Electuaries; for these Preparations render Pills so bulky, as to make a Dose tiresome. It, also, yields its Virtues very readily in Tincture, with Wine, or any other Liquor. Its Dose is from ten to thirty Grains.

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MARS CUM SACCHARO PRÆPARATUS.

A Preparation of IRON with SUGAR.

Take Filings of Steel, three Ounces; and brown Sugar-candy, two Ounces: Let them be rubbed together in a dry Mortar, to a fine Powder.

This will certainly require great Labour before the Steel will be fine, though the Sugar will help to break it, and is of much the same Effect with it, as the Salt of Tartar; but may make it more pleasant in some Cases. It is said to be thus made in our Hospitals.

CROCUS MARTIS APERIENS. Opening Saffron of Iron.

Let thin Plates or Filings of Iron be exposed to the Air in dewy Nights, and Rain, until they become very rusty; then clear off the Rust, and do as before, until the Whole is so changed: Let all be rubbed in a Mortar, and passed thro' a fine Sieve.

This is the most proper aperient Preparation of all that are in Use; because the Acids, which are in most others made use of to dissolve the Iron, render it rather astringent, especially in the Primæ Viæ; and what the College order under this Title, with Sulphur, is rather astringent than aperient.

MARS CUM TARTARO PRÆPARATUS.

Iron prepared with Tartar.

Take equal Quantities of Filings of Iron, and of common white Tartar; put them in a Crucible, and set it on a Fire strong enough to make the Materials red-hot, in which Condition let them continue some time: afterwards remove it, and, when they are cool, powder them in a Mortar; and what will not pass a fine Sieve, heat so again, and again powder; and this repeat until all goes through: Mix the several Siftings, and keep them in a Vessel, close stopp'd from the Air.

This is, indeed, more aperient than the former Preparations; but that Quality it receives from the Tartar. The last Burnings and Siftings will be more difficult to perform than the first, because most of the Tartar goes off then. It must be kept from the Air, else it will run like the luvivous Salts, on account of the Tartar which is amongst it; and, for this Reason, it is not fit to be prescribed in any dry Forms, as Powders. There are other Ways of preparing this with Tartar; but that here deliver'd seems most suited to answer the Intention of an Opener.

MARS CUM SULPHURE PRÆPARATUS.

Iron prepared with Sulphur.

Take equal Quantities of the Filings of Steel, and Flowers of Sulphur: Mix them together, and make them into a Paste with Water, which leave to ferment for four or five Hours; after which, put it into a Crucible, over a good Fire, and stir the Matter with an Iron Spatula. It will flame, and, when the Sulphur is burnt, it will appear black; but, by raising and continuing the Heat, it will change to a red Colour, which shews when it is enough.

That which the College have lately given under this Title, is little else than Sulphur, it being only common Brimstone, melted in an hot Iron.

This is called, also, an *aperient Saffron of Mars*; but the Salts it receives from the Sulphur make it more fixed, and less opening, than the former; and, indeed, there is not much Difference between this and the *Crocus Martis astringens*.

EXTRACTUM MARTIS APERIENS. Opening Extract of Iron.

Take eight Ounces of the Rust of Iron; put it into an Iron Pot, and pour upon it three Pounds of the Water of Honey, and four Pounds of Must, or the Juice of white Grapes perfectly ripe; add to it four Ounces of the Juice of Lemons: Cover it with an Iron Cover, and set it in a Furnace, over a little Fire; leave the Matter in Digestion three Days; then boil it gently three or four Hours, uncovering the Pot every now-and-then, to stir up the Bottom with an Iron Slice; then cover it again, that the Moisture may not evaporate too fast. When you perceive the Liquor to be black, you must take away the Fire, and leave it a while to settle: Pass warm through a Cloth that which is clear, and evaporate the Liquor in a Sand-fire, in an Earthen Pan, or Glass Vessel, to the Consistence of an Extract.

This may very conveniently be contrived to make other proper Ingredients into Pills, or may by itself be made in that Form, and

and taken from ten Grains to half a Dram, in any Obstructions, or where the opening Preparations of Steel are required.

EXTRACTUM MARTIS ASTRINGENS.

The astringent Extract of Iron.

Take eight Ounces of the Rust of Iron powdered very fine; put it into an Iron Pot, and put upon it four Pints of a strong red Wine: Set the Pot over the Fire, and, having covered it, make the Matter boil; stir it, from time to time, with an Iron Slice, till two thirds of it be consumed; pass the Liquor warm through a Cloth, and evaporate it to the Consistence of an Extract.

This, also, may be given, as the foregoing, and in the same Quantity, in languid Habits, and where the Blood wants Warmth, and Invigoration; as, also, in Hemorrhages, and all kinds of Fluxes.

A VITRIOL OF IRON.

Drop pure Oil of Vitriol into eight times its Quantity of fair Water, contained in an urinal Glass, and shake them well together, so as to make one pure Liquor; throw in a small Proportion of clean and bright Filings of Iron; a great Ebullition will arise, and the Liquor become opaque, hot, and of a dusky Colour; and a perfectly fossil Vapour, of a particular Odour, will arise, somewhat resembling that of Garlick. When the Effervescence is over, and the former Iron dissolved, throw in more, and continue thus till a Part of the Filings remain undissolved at the Bottom; then let the Liquor rest to purify, and deposite its Fæces: What floats above, then, will be green, and of a sweetish styptic Taste.

Let this Liquor be filtered, and in a clean Glass evaporated to a Pellicule; set the Vessel in a cold, low, still Place, and there will soon shoot to the Bottom, bright transparent green Crystals like Emeralds. Let the Liquor be poured off from them; dry them gently, in a warm Air, upon Paper, and keep them in a Glass where they will long preserve their Form. The remaining Liquor, being inspissated as before, produces new Crystals; and thus at length almost the whole Liquor is converted into Vitriol; tho' the first Crystals are always the best.

REMARKS.

Iron attracts to itself the fossil Acid of Oil of Vitriol diluted in Water, exactly as an Alkaline Salt does in the Preparation of Tartarus Vitriolatus; in which respect, therefore, Iron and Alkaline Salts agree. The Iron, thus united with the Acid, also becomes soluble in Water; and hence the Compound acquires the Nature of a metallic Salt. It consists of Water, Metal, and Acid, united together in a certain Proportion; and so long as this Proportion remains, so long the Mass continues shining and transparent; but as soon as only the Water is separated from it by any considerable Heat, the whole Mass presently becomes opaque, loses its Greenness, and acquires a grey Colour; in this respect, also, resembling the Crystals of Salt; whence the Chymists have called it the Salt of Iron; as also because it flows in the Fire: Others rather call it the Magistery of Iron, because the whole Body of the Iron is concreted with its Solvent into an uniform solid Mass. It is, also, called Vitriol of Iron, because it perfectly, in every respect, resembles native fossil Vitriol. And hence we understand the Method, whereby the solid Bodies of Metals, upon uniting with Acids, may become like Salts, dissolvable in Water, and potable, and thus acquire a new metallic saline Taste, and also particular medicinal Virtues. If the Salt of Iron be diluted with an hundred times its Quantity of Water, and drank in the Dose of twelve Ounces, upon an empty Stomach, walking gently after it, it opens and relaxes the Body, purges, proves diuretic, kills and expels Worms, tinges the Excrements black, or forms them into a Matter like Clay, strengthens the Fibres, and thus cures many different Distempers. The like Taste, Odour, and Colour, and the like Blackness of the Excrements, have occasioned many to imagine, that the chalybeate Waters were thus produced by Nature; especially because those Liquors, when exposed to the Air, deposite a copious yellow Sediment, or Oakre: But Dr. Hoffman has prudently corrected this Error, by means of Experiments, in his noble Work of Mineral Waters. However, we must observe, that this Salt of Iron, meeting with alcalescent and putrid Matters, and thus having its acid Solvent drank up thereby, is turned into an astringent, ponderous, sluggish, metallic Calx, which occasions inveterate Obstructions, and therefore proves hurtful in putrid Fevers. And we know, that when Iron Filings are taken in Female Disorders, where the Body is weak, languid, and abounds with Acidity, the Metal thus produces Eructations, as of Garlick and putrid Eggs, on account of the Acid it meets with; and hence

the Heat, before wanting in the Body, is excited, and the Excrements generally turn black; and in this Case the Powder of Iron Filings proves much more serviceable, than when ever so laboriously prepared by Chymistry. Whence Iron is known to prove useful, if Acids abound in the Body, but hurtful where the Body is bilious or hot. This Experiment, duly considered, shews us the Origin of green metalline Vitriol every where in the Earth; and that it proceeds from Iron corroded by a fossil vitriolic Acid. Lastly the Production of Inks principally depends upon this Experiment.

LUDOVICUS'S VITRIOL OF IRON WITH TARTAR.

Take one Part of the Vitriol of Iron, not acid, but perfectly saturated, four Parts of Cream of Tartar, and twenty Parts of Rain-water; boil them together in a Glass Vessel, often stirring them with a Stick, till the Mass becomes grey, thick, and almost consistent; but with Care to avoid even the least Burning. Put the Mass into a tall Bolt-head; pour common Spirit of Wine thereon, so as to float four Inches above it; boil them together for an Hour or two, and a red Liquor will be obtained; when cold, decant, and filtre it: Treat the Remainder with fresh Spirit as before, and continue to do this so long as the Spirit acquires any Redness; then put the several Parcels together, which thus make Ludovicus's medicated Tincture of Iron.

If the Tincture thus prepared be evaporated to a Pellicule, it loses its Spirit, and afterwards shoots along with the Salt into medicated Crystals. And if what remains after boiling with the Spirit, be strongly boiled with ten times its Quantity of Water, and strained through Flannel, till the Liquor becomes clear, and all the Matter be dissolved by the frequent Addition of fresh Water, and this Liquor be at length exhaled to a Pellicule, and set in a cool quiet Place, we shall thus again have the opening martial Tartar of Ludovicus.

REMARKS.

Physicians, having observ'd that the excellent medicinal Virtues of Iron, somewhat explain'd in the preceding Process, had their Effect so long as the Iron continu'd dissolv'd in a mild Acid, but vanish'd, and were precipitated into an unctuous Calx, upon meeting with an Alkali, hence prudently joined the Salt of Iron with a vegetable Acid, in Expectation that it might thus pass and act upon all the Vessels of the Body, while it more permanently retain'd a saline Nature; and this was the Reason of joining the Salt of Iron with the vegetable oily Salt of Tartar, to prevent its being easily precipitated in the Body into a Crows, or astringent Calx. The Preparation has the Virtue of opening, attenuating, strengthening, and gently evacuating by the Belly and Kidneys; and hence proves curative in leucophlegmatic, scorbutic, icteric, hypochondriacal, and hysterical Cases, or when the Body is relaxed, weak thro' the Sluggishness of the Parts, rickety, or abounding with Worms.

It is taken in a Morning fasting, in the Quantity of a Dram, diluted with six times its Weight of Water, repeating it thrice, and each time drinking after it a Quarter of a Pint of thin Whey, walking gently upon it, so as not to sweat; this may be continued for nine Days with great Advantage. A few Drops of it may be given to Children troubled with the Rickers, or Worms, and thence become of a bad Habit, mixed with Syrup, or Honey. A Dram of the chalybeate Tartar, taken in the Morning, answers the same Purposes. And hence we see the Method of converting Metals into Medicines, and Forms fit for taking; but they are afterwards prudently to be employ'd: These are found to have very good Effects, if they prove gently purgative, and bring away the Fæces of a black, or grey Colour.

The College Dispensatory, after the Example of Riverius, directs the Salt of Iron to be made in a manner somewhat different; that is, with four Ounces of Spirit of Wine, and two Ounces of Oil of Vitriol, kept together in an Iron Pot, till they shoot into Crystals.

There are several other ways to make this, all which agree as to the main Efficacy of the Medicine; for every way that impregnates a Liquor with Acid and Iron sufficiently will enable it to shoot into green Crystals.

The Dose recommended by Boerhaave of the Salt of Vitriol is very large. Geoffroy says, it is given from two Grains to a Scruple, in a proper Vehicle: If exhibited in too large a Dose, it excites Vomiting.

THE WHITE, GREY, AND RED CALX OF THE VITRIOL OF IRON.

1. Take half an Ounce of dry and good Vitriol of Iron, reduced to a Powder in a Glass Mortar; apply it in a glazed Dish to a Heat of a hundred and fifty Degrees, keeping it continually stirring with a Stick, a little watery Vapour will

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By off, and leave a light, white Powder, like Meal, of an inky, sweet, styptic Taste; this is the white Calx of the Vitriol of Iron. 2. If this Calx be urged with a stronger Fire of near three hundred Degrees, it will become of a greyer Colour, and of a more austere Taste. 3. If this second Calx be calcined in a Crucible, in an open Fire, it grows yellow, red, and at length becomes a deep-purple Powder, of an austere Taste, and somewhat caustic; which two Properties are the more increased, the stronger the Fire, and the longer the Calcination; so that at length the Powder will become almost caustic.

REMARKS.

Hence we see, that Vitriols, or metallic Salts, presently lose their Transparency, upon losing their Water, and fall, as it were, into Ashes; whence this Operation is called Calcination, and the thing produced a Calx. And when urged with a stronger Fire, they no longer remain soluble in Water, as constantly appears in the third Calx. The first is recommended in Medicine, because it retains its native Virtue, may be easily mixed with Sugar, and thus commodiously given to Children. It is usually imagined, that the superabundant Acid may be driven away by this Calcination; but Oil of Vitriol does not rise with so small a Heat. The second Calx has the like Virtues, but is somewhat more astringent, and less soluble in Water; but the third is not soluble in the Body, yet endowed with a caustic Virtue, so that it can seldom be given internally with Safety: Externally applied, it is excellent for eating down, and afterwards consolidating, the Lips of Ulcers; it stops Fluxes of the Lymph, Blood, and Serum: But if this red Calx of Vitriol be long detained in a violent Fire, and afterwards boiled in Water, it impregnates the Water with a vitriolic Sharpness. If the Operation be continued till the last Water comes off tasteless, an insipid, red, astringent Powder, called *Crocus Martis astringens*, will remain behind; and is the Body of the Iron calcined by Acid and the Fire; and therefore commonly used for astringing. The acid Waters, being evaporated to a Pellicule then set to shoot, afford somewhat of a vitriolic Salt.

Geoffroy directs the *Crocus Martis astringens* to be made, by first turning Filings of Iron into Rust, by sprinkling them a sufficient Number of times with Vinegar; then by calcining this Rust in a reverberatory Heat, till it turns to a very red Powder. It is given successfully in Diarrhoeas, Dysenteries, and Hemorrhages of all kinds. The Dose is from fifteen Grains to a Dram, in the Form of a Bolus, Lozenges, or Pills.

THE LIQUOR OF IRON PER DELIQUUM.

If the red Calx of the Vitriol of Iron be not washed with Water, but strongly calcined, ground fine, put into an open Glass, and exposed to the moist Air, it grows moist, and at length dissolves into a kind of liquid red Matter, that may be called the Oil of Iron *per Deliquium*.

REMARKS.

The Vitriol of Iron contains a very acid and fossil Water, so that the Water being separated by Fire, the strong and pure Acid remains dry, along with the metallic Part alone; but the Acid, being attractive of Moisture, grows moist by the Water of the Air; and this is the true Reason of the Effect; the like obtains in all similar Cases. The Metals thus dissolved in their respective Acids, then dried, moistened in the Air, and dried again, are thus, by repeated Operations, at length, wonderfully opened, resolved, and even made volatile. The Calx of the Metals, thus dissolved by the Moisture of the Air, has the same Virtue it was possess'd of before this Dissolution.

If Iron mixed with an equal Part of Sal Ammoniac is calcin'd by a very gradual Heat, in an unglaz'd earthen Vessel, stirring it all the time, to prevent as much as possible its forming Lumps, and if this is afterwards expos'd to the moist Air, it dissolves, *per Deliquium*, like Salt of Tartar, into a Liquid, five or six Drops of which may be taken for a Dose in any proper Fluid.

THE GOLDEN TINCTURE OF THE VITRIOL OF IRON.

To a Quantity of the red Vitriol of Iron, prepared according to the third Operation on the Vitriol of Iron, made perfectly dry, and put into a tall Bolt-head, pour twenty times its Weight of dulcified Spirit of Sea-salt; digest for a Month, and thus a gold coloured, sweetish, styptic, inky Liquor will be obtained. If this be decanted, and new Spirit put on, and the Operation be thus several times repeated, the metallic Powder will, at length, remain exhausted, and all the Tincture be thus extracted.

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REMARKS.

This Experiment shews, that considerable Tinctures may be extracted from Metals, without dissolving their Bodies; for this is a true Tincture of Iron, since one Drop thereof has an incredible Power of producing a black Colour. But this Spirit can never dissolve all the Calx; but only extract its more soluble Part. A few Drops of this Liquor, being taken in *Spanish* Wine, upon an empty Stomach, are restorative, kill Worms, and raise the vital Powers. The chemical *Magi* plac'd their medicated Gold in Iron; possibly, therefore, this may be their medicated *Aurum potabile*.

Bates directs a *Tinctura Martis Aurca*, somewhat different from the preceding; and which is taken into the *Londoni Dispensatory*, under the Title of *Tinctura Martis cum Spiritu Salis*.

Take an Ounce of Filings of Iron, and infuse them in four Ounces of Spirit of Salt, for two Hours, stirring them often; then pour upon it four Ounces of rectify'd Spirit, and digest for three or four Hours longer: Then filtre it with a glass Funnel, (for it will corrode any Metal) and there will be a beautiful yellow Tincture.

This is very convenient for keeping in the Shops, as well as making; and is agreeably prescribed in Draughts, or any liquid Forms, for present taking, from ten to thirty or forty Drops, at a Dose, and has all the Virtues of the Metal.

IRON DISSOLVED IN RHENISH WINE.

Put two Ounces of bright Iron Filings into a Bolt-head, and add thereto twenty Ounces, of generous *Rhenish* Wine; digest them together in a gentle Heat, for three or four Days, often shaking the Glass: Let them afterwards stand to settle for twenty-four Hours, strain off the Wine, which will appear black, and keep it in a close-stopped Vessel; it is of a sweetish inky Taste: Pour fresh Wine on the Remainder, and proceed as before. Thus, also, a chalybeate Wine will be obtained, but no way comparable to the former; for the particular Part hence obtainable is soon extracted from the Iron by the Wine; the whole Body of the Metal not being here dissolved; so that the Production is not a Solution, but a Tincture.

REMARKS.

Hence it appears, that Iron contains one Part which is soluble, and another that is insoluble, in this mild, fermented, oily, vegetable Acid. The former Part is the noblest Remedy I am acquainted with, for promoting that Power in the Body by which the Blood is made, as often as it happens to be weakened, through a bare Debility of the over-relaxed Solids, and an indolent, cold, aqueous Indisposition of the Juices. If an excellent medicinal Virtue may, by any Experiment, be gained from Metals, certainly it is this; for no Virtue of any vegetable or animal Substance, no Diet, nor Regimen, can effect that in this Case, which is effected by Iron; but it proves pernicious where the vital Powers are too strong, whether this proceeds from the Fluids or Solids. I have often thought, whether this was not the potable Sulphur of the Metal, that so powerfully resists the Debility of Nature; a Medicine infinitely superior to the boasted *Aurum potabile*, and a Medicine that never proves pernicious when given where required. Hence we see, that Iron has a Part not very remote from a vegetable, and even an animal Nature, and which is extremely easy to dissolve. If a Dram of this chalybeate Wine be mixed with thrice its Weight of Sugar, boiled to a proper Consistence, and be prudently given in the proper Cases, it makes an incomparable Remedy for the young of both Sexes.

IRON DISSOLVED IN VINEGAR.

Put an Ounce of clean Iron Filings into a tall Bolt-head; and pour thereto twenty Ounces of the strongest distilled Vinegar; boil them together in a proper Furnace for twenty Hours; and, when cold, there will be obtained an highly red and styptic Liquor, nauseously sweetish, and thicker than that made with Wine in the preceding Process. This, being filtered, makes the astringent Tincture of Iron, and stains the Glasses in which it is kept, so that it is scarce possible to be got off again. If fresh Vinegar be pour'd upon the Remainder, it again extracts some Tincture, but less, and of a weaker Colour, than before, though still chalybeate. At last there is left a considerable Quantity of metallic Matter, which can be no farther dissolved by Vinegar.

REMARKS.

It is surprising there should be so great a Difference between the Tincture of Iron prepared with Vinegar, and that with Wine, both with respect to Colour, Taste, Odour, Consistence, and Effects. It is hence plain, that Iron may easily, and in very different Methods, be dissolved by Acids. This Solution of Iron by Vinegar is wonderfully astringent, and, therefore, corroborating, and good against Worms; though not to be everywhere rashly employed; it proves more agreeable, if mixed and taken with Sugar. Hence we see how easily Iron dissolved may enter the human Body, and how often, since Iron is daily treated and dissolved by Acids, and the Solution drank down; and hence possibly, by insinuating into the Humours, it may contribute to generate the Stone in the Bladder, as Dr. Lister conceived. Thus much is certain, that Iron grows almost every-where, is daily consumed, rises out of the Earth, and returns to it again. If any Metal be changeable, or destructible, it is certainly Iron.

IRON SUBLIMED WITH SAL AMMONIAC.

Take four Ounces of bright Iron Filings, and as much dry Flowers of Sal Ammoniac; grind them together in a glass Mortar, the longer the better. Though these two Bodies were separately inodorous, there now rises from them a volatile, subtle, and, as it were, an alkaline Vapour, because the Acid of the Sal Ammoniac is attracted into the Iron; whence the volatile alkaline Part of that Salt, beginning to be set free spontaneously, flies off. Let a capacious and dry glass Body be at hand, with a wide Mouth; put the Powder into it, that it may lie thin spread at the Bottom. Lute on an Alembic-head, with a common Mixture of Meal; apply a Receiver, set the Body in a Sand-furnace, and bury it up to the lower Rim of the Head: First make a Fire of two hundred and twenty Degrees, and there will come over a sharp Vapour, which condenses into an highly penetrating, volatile, alkaline Liquor. When no more ascends with this Degree of Heat, raise the Fire, that the Alembic-head may grow hot: White Exhalations will now arise, and afterwards others of various Colours; the whole Cavity of the Head will be covered with mixed variegated Colours, White, Red, Yellow, Green, Blackish, so as to represent various Flowers, from whence the Preparations take their Name. Proceed with the same Degree of Fire for six or eight Hours; then let all cool, and there will be found in the Receiver a Gold-coloured, volatile, alkaline, and highly penetrating Liquor, along with a little white and yellow Matter. In the Alembic-head, and its Pipe, will be found a very subtle and dry Matter of various Colours: This is to be immediately taken out, and put into a dry and hot Glass, to be kept carefully stopped; for it would soon dissolve by the Moisture of the Air, and then run into a Gold-coloured, fattish, austere, saline Liquor. In the dry Form it is called the Flowers of Iron, and in the moist, the Oil of Iron *per Deliquium*. The same Matter of the Flowers every-where sticks to the Sides of the Body, though it is here more compact, and as it were melted, and runs strong together by the greater Force of the Fire: This, also, is to be taken out, and kept dry. At the Bottom of the Body there remains a brownish-red Matter, of a very austere Taste; this Matter attracts Moisture, and presently resolves in a humid Air, and runs into a thick, Gold-coloured astringent Liquor, which is another metallic Oil *per Deliquium*. This Matter usually swells greatly upon being exposed to the Air, and thus resembles some kind of Fermentation; but the Flowers, and this Remainder, differ in many respects.

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Sal Ammoniac, consisting of the Spirit of Sea-salt, and the volatile Alkali of Animals, being here ground with the Iron, unites some Part of its Acid with the Metal; at the same time letting go some Part of its Alkali, which, therefore, becomes volatile; the other Part of the Sal Ammoniac, retaining its Nature, and remaining mixed with the Iron, now corroded by the Acid, separates a particular Part of the Iron, which is otherwise fixed in the Fire, and carries it up. But, it is not so easy, as some write, to sublime all the Substance of Iron, by Sal Ammoniac; but it here seems to be divided into a more volatile Part, that rises, and another more fixed Part, that stays behind; at least, it appears thus to me; whence, I conceive, the Iron is thus separable into different Parts. Hence, also, we may understand the particular Volatility of Sal Ammoniac, which is able to sublime a Metal, naturally so fixed, and so hard to melt, as Iron; whence the Philosophers have called this Salt the rapacious Bird, the white Eagle, and the Key that unlocks the Bodies of Metals. These Flowers have the same Virtues as Mr. Boyle commends in the *Ess. Veneris*; for they are a wonderful restorative, warming, and opening Medicine, containing the open Body of the metallic Sulphur. They have, also, an anodyne Virtue, and are often somewhat soporiferous. The dry Flowers, being digested with Alco-

hol, afford a copious golden Tincture, both metallic and sulphureous; and the remaining *Caput Mortuum*, after the Sublimation, affords the same with Alcohol. The Curious and Industrious expose the remaining Body of the Oil and Salt to the Air, where it resolves; then they coagulate and inspissate it, and repeat the Operation, till at length, they so wonderfully and deeply disbowel the metallic Mass, as not to repent their Trouble and Expence. What Chymist is ignorant of that Rule, so often inculcated, Dissolve and coagulate? But whether, by repeating this Operation, Mercury might be obtained from the dissolved Body of Metals, is another Question. I have tried it, though without Success; but the Experiments upon Metals, by means of Sal Ammoniac, are of infinite Use. *Boerh. Chym.*

The *Tinctura Martis Ludovici* is, in the *Edinburgh Dispensatory*, directed to be prepared in the following manner:

Take of the Vitriol of Mars, and white Tartar, each two Ounces; and of Spring-water, twenty-four Ounces: Boil to the Consistence of Honey; and, to the Mass, when taken out, and put into a Matrafs, add a Pint and an half of rectified Spirit of Wine: Digest for two Days in a Sand-heat, then strain the Tincture.

The *Tinctura Martis Myrschti* is ordered to be thus prepared in the *Edinburgh Dispensatory*.

Take of the Filings of Iron, and of Sal Ammoniac in Powder, each two Ounces: Mix them together, and by degrees, cast the Whole into an ignited Crucible, that the Vapours may ascend; and when they rise no longer, increase the Fire, so as that the Mass may glow: Then being at length suffered to cool, reduce it to Powder; put it into a Matrafs, and pour upon it a Quart of French White-wine; then digest in a very gentle Fire, and lastly filtre the Tincture.

TINCTURA MARTIS GLAUBERI.

Glauber's Tincture of Steel.

Take of *Rhenish* Tartar, and Filings of Steel, of each four Ounces: Reduce them into a fine Powder, and boil them in a sufficient Quantity of Spring-water, in an Iron Pot, that two Gallons may remain after six Hours boiling: Filtre that hot, and then evaporate it to five Pints.

This hath now its first Appearance in the College Dispensatory; but what is intended to be done with it, cannot well be guessed; for it will neither keep, on several Accounts; nor is it fit to take, because of its Nauseousness.

The *astringent Tincture of Iron*, or *Tinctura Antiphthifica*, according to *Geoffroy*, is thus prepared:

Take of the Vitriol of Iron, an Ounce; Terra foliata Tartari, two Drams: Powder them separately; then mix them by degrees in a Glass Mortar, rubbing them constantly, during the Mixture, till they turn to a kind of soft Paste, of a red Colour: Then pour upon them, gently, four Ounces of rectified Spirit of Wine, which will presently acquire a red Colour, and is then to be poured off by Inclination from the Faeces. The Dose is from ten to thirty or forty Drops.

It stops Hæmorrhages, Gonorrhœas, and the Fluor albus in Women. It cleanses and dries Ulcers in the Lungs, and is often prescribed with Advantage in Consumptions, mixed with equal Parts of Balsam of Capivi. In this Preparation, I have rejected the Sugar of Lead commonly used, and have substituted in its Place the Terra foliata Tartari, which extracts the Tincture full as well, and free from all the Inconveniences which attend the inward Use of Preparations of Lead. *Geoffroy*.

The bitter Infusion of Dr. Lower is prepared in the following manner:

Take of the Tops of Wormwood, and the lesser Centaury, each three Pugils; of the Seeds of Carduus Benedictus, six Drams; of Gentian-root, an Ounce and an half; and of the Filings of Steel, six Ounces: Let them be macerated for fourteen Days, in three Pints of alexiterial Milk-water, mix'd with one Pint of the lesser compound Wormwood-water, as prepared in the *London Dispensatory*; and a Pint and an half of the lesser compound Spirit of Wormwood, as prepared in the same Dispensatory. Let the Vessel be shaken three or four times a Day, and the Infusion only strain'd immediately before it is to be used. The Dose of this Infusion is four or six Spoonfuls, to be taken each Morning on an empty Stomach.

Dr. Placcin, in his *Element. Medic. Phys. Mathemat. Lib. 2. Cap. 22.* advises, instead of the Gentian-root, always to substitute Peruvian Bark; and tells us, that this Infusion ought to be used, without Interruption, for at least a Month, in hypochondriacal Disorders.

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EXTRAORDINARY EFFECTS UPON APPLYING IRON TO SULPHUR.

1. Take of Iron Filings, and Flowers of Sulphur, each an Ounce; grind them together in a Glass Mortar, the longer the better; they will thus grow hot, and smell strong: Then boil the Powder in Water for half an Hour; pour off the Water, strain and reserve it; treat the Remainder as before: The several Waters, when put together, will taste somewhat inky, and, when inspissated, leave a little pure Vitriol of Iron behind.
2. Take eight Ounces of the like Mixture of Iron and Sulphur; make it up into a thick Paste with Water, squeeze this Paste strongly into an earthen Pot, and set it by; it will soon spontaneously begin to grow hot, emit Fumes, and at length often takes Fire. When the Heat is over, the Matter will be found changed into an uniform Mass; which, being well-ground, and boiled with Water, as in the former Case, affords a pure Vitriol of Iron for medicinal Use.
3. Melt Sulphur over the Fire, and plunge the End of an Iron Rod into it for some time; the Part so plunged will thus become calcined and brittle. In the same manner, if Iron Filings be put into melted Brimstone, a Crocus of Iron may be obtained, which, when ground to Powder, becomes almost the same thing.
4. If Sulphur be apply'd to red-hot Iron, it makes the Iron presently run into calcin'd metallic Drops, which, also, when ground, afford the like Calx.

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In these four Experiments, the highly acid Oil of Vitriol, which makes one Part of Sulphur, coming by means of Trituration, or Fusion, to touch the metallic Part of the Iron, in numerous Surfaces, begins to act thereon, forsaking its oily Part, and uniting with the Iron. And as this Action always generates a violent Heat, it is no Wonder, if, at length, it fires the other oily Part, which is easily inflammable, especially if the Quantity were large, sufficiently compact, thoroughly ground, and close compressed. And as soon as, by any of these Ways, the Acid of the Sulphur has corroded the Metal, a pure Vitriol of Iron is produced; because there is no metallic Foulness in the Flowers of Sulphur: And by these means artificial chalybeate mineral Waters may be truly produced. These Powders are called *Crocuses*, by the Chymists, on account of their Colour, and are of the aperient Kind, as having an aperitive vitriolic Virtue; whereas other Powders, prepared by the means of Acids and Fire, are called Astringent. These are the principal Ways whereby Iron is so changed, as, at length, to afford Preparations always of very different Forms, and sometimes such as the Metal would not have afforded by the means of Fire, or any thing else. But particular Metals require particular Treatments; in which respect a Variety of Operations is required. *Boerhaave's Chymistry.*

Having thus given an Account of the principal medicinal Preparations of Iron, it will be proper to say something concerning the Virtues of this Metal, and the Cautions to be observed in the Use of all the Medicines prepared from it. We have already observed, that Physicians have ascribed two kinds of Effects to Iron, one aperient, the other astringent. Hence Chymists have tortured it various Ways, into Croci, Tinctures, and Salts, by which the aperient or astringent Qualities might be extracted; but it is worth Observation, that the astringent Preparations are often found to prove cathartic and diuretic; that the aperient often stop Fluxes; and the Preparations of both kinds promote the Flux of the Menfes, and suppress them when immoderate. If we inquire into the Cause of those various Phenomena, it will be found to be entirely in the Stypticity of Iron; which, according to the different Dispositions of the Body of the Patient, produces different, and even contrary Effects. Therefore, though Iron may often act as an Aperient, yet even then it acts only by its Adstriction. To conceive this, we are to consider, that the morbid State of the Blood is of three kinds; the first is the glutinous State, in which the Blood, deprived, in a great measure, of its spirituous Part, swims in a thicker Serum; and thus sticks in almost all the small Vessels, creating Obstructions almost every-where, and, consequently, Cachexies. The second State is a thick Blood, deprived of a great Quantity of its Serum, whence it is said to be adust or melancholic: In this State it easily stagnates in the small Vessels, and produces scirrhus and scorbutic Obstructions. Thirdly, the Blood may abound with too great a Quantity of Serum, and thereby open to itself Passages and Channels, into which the Blood does not naturally flow. All these morbid States proceed from the undue Contraction of the Vessels, and their undue Action upon the Fluids, without which Action these Fluids cannot circulate.

Thus when the Serum is too thick, the Elasticity of the Vessels

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is too small to propel the Blood as it ought to be; and hence follow Leucophlegmacies, Chloroses, Suppression of the Menfes, Cachexies, and other Diseases of the same Kind. When the Quantity of Serum is too small, the Blood, if we may so say, becomes solid, and thus eludes the Force of the Vessels, forming very stubborn Obstructions, such as Scirrhuses, and others of that kind. These Obstructions are often followed by Hæmorrhages, difficult to be cured, as is seen in Dropsies. Lastly, when the Vessels are continually bathed in a great Quantity of thin Serum, they lose their Elasticity, and the Blood, being too much diluted, relaxes and weakens the solid Parts, passes in unusual Channels, and thus produces Diarrhoeas, Diabetes, Hæmorrhages, Dropsies, and the like.

What can be the Effect of Iron in all these Cases, is evident from its Taste, which, in crude Iron, as well as in all its Preparations, is styptic, contracting the Fibres of the Tongue, Palate, and of the whole Mouth; whence follows a more copious and frequent Discharge of Saliva. Hence we may easily judge, what will be the Effect of all Martial Preparations, taken inwardly; that is, to constringe the Fibres, to restore and increase their Elasticity, by which Effects the Fluids, stagnating in the Interstices of the Fibres, will be expelled; the inspissated Juices broken to Pieces, and made more fluid; and the Motion of all the Fluids accelerated. The same Effects are produced in the Fluids; the fibrous Part of the Blood is constricted, and the Serum squeezed out of it; and that, either to the Advantage or Prejudice of the Patient, according to the State of his Solids and Fluids; and, therefore, great Judgment is requir'd in prescribing Iron, and its several Preparations.

In cachectic Cases, such as Leucophlegmacy, Chlorosis, Suppression of the Menfes, and other Diseases, in which the Blood is glutinous and viscid, the Preparations of Iron are of sovereign Use; for, by its astringent Quality, it brings the Fibres of the solid Parts into Contact, expresses the Serum contain'd in the Interstices between them, and throws it into the Vessels. Thus the Blood is dissolved, the Elasticity of the solid Fibres restored, the viscid Juices attenuated, and a due Circulation everywhere restored. Iron is far from being of the same Benefit in scirrhus, scorbutic, and melancholic Affections; for the Blood being, in these Cases, too much deprived of Serum, the Vessels, already too tense, are further corrugated by the Action of Iron, and their oscillatory Motion thereby impaired. Hence the inspissated Blood moves still more slowly, the fibrous Part being gradually more compacted, and deprived of its Serum. In such Cases, therefore, Iron is prejudicial; and tho' it be called aperient, it can neither resolve these kinds of Obstructions, nor stop the Hæmorrhages arising from them. Excessive Evacuations, whether by Stool, Hæmorrhage, continual Sweats, Dropsies, or other Affections, proceeding from too large a Proportion of Serum, are accurately to be distinguished by Physicians. Iron is of Service in all such Diseases, as it strengthens the solid Fibres, expels the redundant Serum, and restores the Elasticity of the Vessels; but if these Evacuations arise from stubborn Obstructions, as is usually the Case in hectic Fevers, all Preparations of Iron are hurtful; for, by separating the serous from the fibrous Parts of the Blood, and forcing that Serum out of the Body, they increase both the Evacuations and Obstructions. Thus, though the Use of Iron may be proper in the Beginning of a Dropsy, it is always hurtful in Dropsies of long Standing; because, in such, the excessive Flux of the Serum, having already left the fibrous Part of the Blood almost dry, would be so much increased by the Use of Iron, that the Patient, gradually deprived of the Use of all his Limbs, would speedily fall a Sacrifice to that Medicine, thus injudiciously applied.

Thus all the good and bad Effects of Iron proceed from its Stypticity; by this alone it binds and opens. But it is not to be thought, that all Styptics perform the same Effects with Iron in proportion to their Stypticity; Iron having this peculiar to itself, that, through all the Stages of Circulation, it preserves this Quality; whereas vegetable Styptics are so much changed in the Primæ Viæ, that the Blood and small Vessels are hardly affected by them; whereas Iron is only opened by the Juices of the Stomach and Intestines, and thereby disposed to Action, as it enters the Blood, by which its Efficacy is diffused through the whole Habit, its astringent Virtue being every-where exerted. It ought, however, to be observed, that Iron is better prescribed in Substance, than impregnated with Salts; for, when united with Salts, it is not so easily penetrated and dissolved by the Juices of the Stomach. Lastly, Exercise is extremely proper during the Use of Martial Medicines, in order to distribute the Particles of the Iron through the whole Habit, to restore the oscillatory Motion of the solid Fibres, and to accelerate the Motion of the Blood.

An infinite Number of other Preparations of Iron occur in chymical and pharmaceutical Authors; for which the Curious may consult particularly the *Collectanea Chymica Leydensia*.

Melampus is the first upon Record, who exhibited Iron by way of Medicine; for he is said to have directed *Iphiclus* to take the Rust of a Knife, and drink it in Wine, ten Days together, in order to procure him Children.

M A R

MARSIPION, *μαρσίπιον*, in *Hippocrates's Treatise de Fistulis*, is a Sacculus, or Bag, in which he directs the green Leaves of Capers to be included, and thus applied to the Anus.

MARSUM, or **MARSICUM VINUM**. A Sort of *Italian* Wine produced in the County of the *Marci* in *Italy*; it is esteem'd austere and astringent.

MARSUPIALIS MUSCULUS. The Name of a Muscle of the Thigh, called, also, **OBTURATOR INTERNUS**.

This is a flat Muscle, almost triangular, situated in the Bottom of the Pelvis. It covers the oval Foramen, and almost all the Inside of the Os Pubis and Ischium. It has its Name from a *Latin* Verb, which signifies *to fill up, cover, or stop*.

It is fixed to the internal Labium of all the anterior Half of the oval Foramen, a little to the neighbouring Part of the Obturator Ligament; and, also, both above and below the Foramen. It is, likewise, fixed to the upper Half of the Inside of the Os Ischium, from the upper oblique Notch of the oval Foramen, to the superior Part of the great posterior Sinus of the Os Ilium, which would be more properly named Sinus Iliacus, than Sinus Ischiadicus.

From all this Extent the fleshy Fibres, contracting in Breadth, run down below the Spine of the Ischium, where they go out of the Pelvis, through the posterior Notch of the Ischium. The Inside of the Body of this Muscle, or that turned to the Cavity of the Pelvis, is pretty uniform; but the Outside, or that turned toward the oval Foramen, and which touches the Bone, has four middle radiated Tendons; which, uniting at the posterior Notch of the Ischium, run over it, from behind forward, as over a Pulley, each Tendon sliding in a particular cartilaginous Chanel.

Afterwards, the four Tendons, having got out of the Pelvis, are very strictly united in one large flat Tendon; which, crossing over that of the Pyriformis, unites with it, having first received some additional fleshy Fibres from the two Gemelli.

The great Tendon slides freely in a sort of membranous Vagina, formed by these Muscles, and is inserted in the Middle of the superior Part of the Cavity of the great Trochanter, adhering closely to the capsular Ligament of the Joint, and being united to the Tendons of the Glutæus minimus, and Pyriformis.

The Obturator Internus has nearly the same Uses with the Quadrigeminus, in making the Rotation of the Thighs when extended, and the Abduction when bent. But the Mechanism of this Muscle is singular in this respect, that, by the Passage of its Tendon over the small ischiadic Notch, it acquires a different Direction from that of the Belly, or fleshy Body.

This Notch supplies the Place of a Pulley, over which a Rope is thrown, one End of which is fastened to a moveable Object, which, by pulling the other End, may be brought nearer the Pulley. In this the Pulley performs the Office of a fixed Point, or Fulcrum, with respect to the moveable Body. And, in like manner, the ischiatic Notch is a Fulcrum of the Motion of the Thigh by the Obturator Internus. *Winslow's Anatomy*.

MARTACH or **MARTATH**. Litharge. *Rulandus*.

MARTAGON. A Species of Lily. See **LILIUM**. The Chymists, also, apply the Name to the Matter of the Philosophers Stone. *Rulandus* explains Martagon, *Silphium*.

MARTECH. *Fallopins* supposes this to be the same as Martach, that is, Litharge.

MARTES. The Marten, an Animal more esteem'd for the Excellence of its Fur, than any medicinal Virtues it is possessed of. There are two Sorts, principally found in the Northern Countries. The largest is called *Martes*, *Marta*, *Marterus*, *Foina*, *Gairus*, and *Sciurus*. The smallest is named *Mustela Zibellina*, *Alus Sythicus*, or *Sarmaticus*, and *Zobola*.

The Flesh of the Marten is said to be resolute, and good to fortify the Nerves.

MARTIANUM POMUM, is an Orange. *Suetonius*.

MARTIATUM UNGUENTUM. The Soldiers Ointment, is thus prepared:

Take of fresh Bay-leaves, three Pounds; of Garden Rue, two Pounds and an half; of Marjoram, two Pounds; Mint, one Pound; Sage, Wormwood, Costmary, and Basil, each half a Pound; Olive-oil, twenty Pounds; yellow Wax, four Pounds; Malaga Wine, two Pints; and make them all into an Ointment, by Bruiling, Macerating, Boiling, and Expression.

This is said to have been the Contrivance of one *Martian*, for the Soldiers to preserve their Limbs from the Injuries they were liable to in long Encampments, and by sustaining Cold.

Nicolaus gives it with an intolerable Croud of Ingredients; and the *Augustane* and first *London* Dispensatories have transcribed it from him, with very little Alteration; but later Revises of the College have rejected the insignificant Ingredients, and brought it to that concise uniform Composition it now stands in here; it is esteem'd enough to be pretty frequently prescribed, and constantly kept in the Shops.

M A S

MARTYNIA.

This Name was given by the late Dr. *Houffton*, to this Genus of Plants, which he discover'd in *America*, in Honour to his Friend Mr. *John Martyn*, Professor of Botany in *Cambridge*.

The Characters are;

It hath an anomalous Flower, consisting of one Leaf; which is divided into two Lips; the upper Lip is erect, and slightly cut into two Parts; but the under Lip is cut into three Parts; the middle Segment being larger than the other two. The Flower is succeeded by a Fruit, having a strong thick Covering; in which is included a very hard Nut, having two sharp crooked Horns at one End; and in the Nut are included four Seeds, lodged in so many separate Cells.

Miller mentions three Species.

1. *Martynia annua villosa & viscosa*, folio subrotundo, flore magno rubro. *Houff.*

2. *Martynia annua villosa & viscosa*, aceris folio, flore albo, tubo longissimo. *Houff.*

3. *Martynia perennis*, folio subrotundo rugoso, flore cœruleo, radice dentariæ. *Linn.*

There are no medicinal Virtues at present ascribed to these Plants that I know of.

MARU. A Name for the *Cerinthæ quorundam*; major; *versicolore flore*. And for the *Horminum*; *sylvestre*; *Lavandule flore*.

MARUM.

The Characters are;

It has the Appearance of a Shrub; the Leaves are cuspidated, like those of the *Serpyllum*; the Flower resembles that of the *Teucrium*, one growing in the Ala of each Leaf; it is of an acrid and volatile Smell.

Boerhaave mentions two Species of this Plant; which are,

1. *Marum*; *Syriacum*; vel *Creticum*. *Park. Theat.* 13. *Boerb. Ind. alt.* 182. *Marum Syriacum*. *Offic. Ger.* 544. *Emac.* 670. *Marum Cortusi*. *J. B.* 3. 242. *Raii Hist.* 1. 527. *Marum Creticum*. *Alp. Exot.* 288. *Majorana Syriaca vel Cretica*. *C. B. P.* 224. *Chamædrys incana*, *maritima*, *frutescens*, *foliis lanceolatis*. *Tourn. Inst.* 205. **SYRIAN HERB MASTICH.**

This is a lower and tenderer Plant than the *Mastichina*, having white hoary Branches and Leaves, green above, and hoary underneath; but less than the Leaves of that: The Flowers grow on the Tops of the Stalks, in large, white, hoary Calyces, of a red Colour, and larger than the *Mastichina*, having no Galea; and therefore it is, by *Tournefort*, reckon'd a Species of *Chamædrys*. The Root is small and woody; the Leaves and Flowers have a very piercing grateful Scent, so quick that it will cause Sneezing. The Cats are great Admirers of this Plant, and it must be carefully defended, or they will eat and destroy it. It is nursed up in the Gardens of the Curious, being less patient of Cold than the *Mastichina*. It grows naturally in *Candia* and *Syria*.

This is accounted a good cephalic and nervous Plant, and is much used in cephalic Snuff; but is of little other Service in Physic. *Miller's Bot. Off.*

This Plant is very friendly to Nature; the Leaves, rubbed, emit an Odour, which affects the Brain like volatile Salt; but in Summer, when scorched, and, as it were, burnt by the fervent Heat of the Sun, they yield no Smell at all, though rubbed never so vehemently: Hence it appears to contain an acidulous volatile Salt, and that nothing in Art or Nature affords the like. This Salt is very good against Apoplexies, Lethargies, and hysteric and epileptic Disorders, provided they proceed from a cold Cause. The Spirit, sprinkled in any Place, diffuses a most grateful Scent; and Paper, impregnated with it, maintains its Fragrance for a whole Year. It is a Plant of extraordinary Use in phlegmatic Diseases, proceeding from the Stomach, the Anasarca, and stomachic and uterine Disorders. The Conserve, with Spirit of Wine, yields a Spirit far exceeding *Hungary Water*. It is of Service, also, in venomous Bites, a fetid Breath, and is an Ingredient in Theriacal Compositions. *Hist. Plant. ascript. Boerhaav.*

2. *Marum*; *Hispanicum*; *nigrum*; flore purpureo; *Piperella Hispanis*. *Barr. Ic.* 694. *Boerb. Ind. alt. Plant.*

MARUM VULGARE. See **MASTICHINA**.

MAS. A Male, among Animals. In Botany some Plants are called *male*, and others of the same Species, *female*; the male are those which are barren, and bear no Seed; the Female are those which produce Seed. Sometimes the male and female Flowers grow on the same Plant.

Sometimes Mercury, and sometimes Sulphur, is called *Mas* by the Alchemists.

MASARANDIBA PISON. A Tree which grows in *Brasil*, very like our *European* Cherry-trees, in every respect, except that the Fruit it produces is not so round as our Cherries. This Fruit contains a very hard Stone, and a very agreeable milky Juice; which is expressed by the Inhabitants of *Brasil*, and taken, by way of Emulsion, as a Remedy for cold Affections of the Breast, and Hoarseness, either alone, or joined with other Pectorals.

MASCHALE, *μασχάλη*. The Axilla, or Arm-pit.

MASCHA-

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MASCHALISTER, μαχαλίστης. A Name for the second Vertebra of the Back.

MASCI. A Name for the *Phaseolus*; *Ostocaulis*; *Mungo Persarum Turcarum masc. Hispaniorum max. Boerb. Ind. alt.*

MASCULINITAS. A Conception of a male Child. *Masculinus* is an Epithet for the Woman who conceives a male Child: Thus, also, *Feminitas* is the Conception of a female Child; and *Feminans*, the Woman who conceives it. *Castellus* from *Avicenna*.

MASELUC. A Name of the *Molucca*; *Spinosa. Boerb. Ind. alt.*

MASLACH, a Medicine much in Use among the *Turks*; it is called, also, *Anfion*, or *Amphion*, and is prepared of Opium: They take a Dram of it at a time, and sometimes two or three, in order to qualify themselves the better for Venereal Exercises, or to raise their Courage when they are going into the Field of Battle. *Castellus*.

MASNAPHIL, *Confectio*. The Name of a medicinal Composition, described by *Aetius Tetrabib. 4. Serm. 1. Cap. 118.*

MASPETA, a Name by which some call the Leaves of the *Silphium. Dioscorides, Lib. 3. Cap. 94.*

MASSA. See **MAZA**.

MASSALIOTICON, the Name of a Plaster, commended by *Galen* for a Carbuncle. It takes its Name from *Demosthenes Massaliotes*, and is described by *Aegineta, Lib. 7. Cap. 13.*

MASSALIS, *Mosel, Massariam, Mater. Mercury. Rulandus.*

MASSETER. The Name of a Muscle which serves to move the lower Jaw. See **CAPUT**.

MASSICOT. Cerufs, or white Lead, calcined by a moderate Fire. There are three Sorts of it, the white, the yellow, and the Gold-colour'd; their Difference proceeds only from the different Degrees of Fire, which gives them different Colours. The white Massicot is of a yellowish-white, and is what has received the least Degree of Heat; the Yellow has received more, and the Gold-colour'd the greatest Heat of all. They ought to be in the Form of an impalpable Powder, ponderous, and deeply coloured; they are used by Painters.

Outwardly applied, they are serviceable as Driers; for which Purpose they may enter the Composition of Ointments, or Plaisters. *Lemery des Drogues.*

MASSINILIA. A Name for the Species of *Tithymalus*, called by *Boerhaave, Tithymalus; Americanus; arborescens; folio corini.*

MASOY. A sort of Bark mentioned by *Ray*, in his History of Plants, from the *German Ephemerides, An. 11.* It grows in *New Guinea*, where it is beat to a Pulp with Water, and used for anointing the Body, in cold and rainy Seasons. It has a grateful Fragrance, heats, and eases Gripes, and Pains of the Belly.

MASTHLE, μάστιγιν, or **MASTHLES**, μάστιγιν. A Skin, Hide, or Thong of Leather. *Hippocrates.*

MASTICATIO. Mastication. The Action of Chewing the Aliment.

MASTICATORIUM. A Masticatory; an Apophlegmatism in a solid Form. See **APOPHLEGMATISMUS**.

MASTICHE Mastich. See **LENTISCUS**, and **BALSAMUM**.

MASTICHELÆON, μαστιχέλαιον. Oil of Mastich. *Dioscorides, Lib. 1. Cap. 51.*

MASTICHINA.

The Characters are;

The Leaves are larger than those of *Serpyllum*; the Stalks erect and shrubby; the Calyx is long, narrow, tubulous, and expanded at the Top into five long and very slender Segments, which are overspread with a subtile Down, to such a Degree as to appear composed of nothing else: The Galea is erect and bifid, and the Beard trifid, so as to make the Flower appear in a manner pentapetaloidal: The Whorles of the Flowers are closely set, and the Flowers collected into white, lanuginous, oblong Heads.

Boerhaave mentions but one Sort of this Plant; which is, Mastichina. *Boerb. Ind. alt. 156. Marum. Offic. Ger. 544. Emac. 670. Raii Hist. 1. 520. Marum vulgare. Park. Theat. 12. Sampsuchus sive Marum Masticken redolens. C. B. P. 244. Chnopodium quibusdam, Mastichina Gallorum. J. B. 3. 243. Thymbra Hispanica, Majorana folio. Tourn. Inst. 197. HERB MASTICH.*

This is a shrubby Plant, full of round, slender, brown Stalks, a Foot high or more, having two small Leaves at a Joint, somewhat bigger than Thyme, but else much like them: The Flowers grow on the Tops of the Stalks, in soft, downy, verticillated Spikes; by which alone it may be known from all other Plants of this Kind; they are small, white, and galeated. The whole Plant has a pleasant grateful Smell: It is planted in Gardens, continuing several Years, if not destroyed by severe Cold: It flowers in *June* and *July*. The Leaves and Heads are used.

This is much of the Nature of *Marjoram*; but differs from it in being, as some write, of great Service in the too great Flux of the Catamenia; a Dram of the Powder being given in rough Wine. It is an Ingredient in the *Trochisci Hedychroi. Miller's Bot. Off.*

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It take its Name from *Mastiche*, Mastich, because it has the Smell and Virtues of Mastich.

This Plant is sudorific, cephalic, and aperient; it is of Service against venomous Bites, and a cadaverous Breath. It is hotter than Betony, and not so hot as *Serpyllum* and *Thyme*, tho' it has the same Virtues, only is a little more astringent. *Hist. Plant. ascript. Boerhaave.*

MASTICOT. *Helmont* says this is a Colour us'd by the Painters, prepar'd from Tin.

MASTIERON. A Name of the Stalk of the Plant, which produces the *Silphium. Oribasii Collect. Medicinal. L. 12.*

MASTOIDÆUS *Musculus*. The Mastoide Muscle.

Winslow takes notice of two Muscles under this Name. The first is the *Mastoidæus Anterior*, or *Sterno-Mastoidæus*.

This is a long, narrow, pretty thick, and mostly fleshy Muscle, situated obliquely between the back Part of the Ear, and lower Part of the Throat. It is in a manner, composed of two Muscles, united at the upper Part through their whole Breadth, and separated at the lower.

It has two Insertions below, both of them flat, and a little tendinous. The first is in the upper Edge of the Sternum, near the Articulation of the Clavicula; the other in the Clavicula at a small Distance from the Sternum. These two Portions run up obliquely, and unite together at about an Inch above their lower Insertions, the triangular Space left between them being filled by a Membrane.

The sternal Portion passes foremost, and covers the clavicula, both forming one Body or Belly, which, running in the same oblique Direction to the Apophysis Mastoideæus, is inserted in the upper and back Part of that Process; over which it likewise sends off a very broad Aponeurosis, which covers the Splenius, and is inserted in the Os Occipitis.

The two anterior Mastoidæi represent a great Roman V, the Angle being at the lower Part of the Throat, and the two Crura running up behind the Ears, as may be plainly seen without Dissection.

The Action of the Sterno-Mastoidæi is different, according as either both Muscles or only one of them acts, and according to different Situation of the Head and Trunk.

When we keep the Head and Trunk streight, whether in standing or sitting, both Muscles preserve the Head in that Posture, against any Force by which it would otherwise be moved backward. This we may be convinced of by laying the Hand on these Muscles, while we endeavour to resist a Force which pushes back the Head.

One of these Muscles acting alone may have the same Use, if the Force to push the Head back be applied between the anterior and lateral Parts of it. In that Case the Sterno-mastoidæus on the same Side would oppose this Force; but if it were applied directly on the Side of the Head, that Opposition would have no Effect without the Assistance of the Splenius on the same Side.

They both serve likewise to perform the Rotations of the Head, that is, to make it turn to either Side, as on a Pivot; and in this Case, when we turn the Head to one Side, the Sterno-mastoidæus on the other Side acts, and not that on the same Side; this is an Observation of Consequence in paralytical Disorders.

They both serve, in the next Place, to bring the Head near the Thorax, when we lie on the Back, or bend backward in sitting. And the lower the Head is in these Situations, the more Force must these Muscles exert to raise it. In this Case the Sternum, being the fixed Point, must remain immoveable; but as its Connexion with the first Rib, and the Inflexibility of the Cartilage of that Rib, are not always sufficient for this, the Musculi Recti of the Abdomen must lend their Assistance in great Efforts.

In most People, we may call this the Co-operation of the abdominal Muscles, in raising the Head, when they lie on their Back, by laying the Hand on these Muscles. But when the Cartilage of the first Rib is very much hardened, and the Articulation quite depriv'd of Motion, as where the first and second Ribs are partly confounded together, of which I have seen Instances, in such People the Sternum does not want any other Assistance to keep it immoveable, and therefore the Co-operation of the Muscles of the Abdomen will not be perceivable.

When, being in an erect Posture, either standing or sitting, we lower the Head, the Sterno-mastoidæi do not act, neither have they any Share in that Posture. It is produced only by the Relaxation of the posterior Muscles, by which alone the Head is sustained in this erect Posture, and without which it would naturally fall forward, as we see in those who fall asleep, or are taken suddenly ill, while sitting.

The Intentions of these Muscles in the posterior Part of the Mastoide Apophyses, has made some Anatomists believe, that they are more proper to bend the Head backward than forward; their Insertions being behind the Condylode Articulation of the Os Occipitis; and to this they might have added, that the Neck, from

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from the natural Disposition of the Vertebrae, is better fitted for Flexion backward than forward.

But, in the first place, as these Insertions take up a great deal of Room, the moveable Point can only be determined to that Part, which is nearest the fleshy Body, and the most anterior; and consequently not situated so far back as is imagined.

In the second place, as the Motions of the Head forward, by these Muscles, is distinct from that of the Neck, the anterior Muscles of the Vertebrae of the Neck must act at the same Time, and hinder them from bending backward; so that, in this Case, the Neck may be looked on as a Pillar, the upper Part of which supports the Head, while the Head, acted upon by the Muscles, carries the lower Part of it forward. It is for want of this Co-operation, that Experiments made on dead Bodies, have been ready to mislead Anatomists.

The second is the *Splenius, five Mastoideus posterior*.

This is a flat, broad, oblong Muscle, situated obliquely between the back Part of the Ear, and the posterior and lower Part of the Neck. It is partly single, and partly made of two Portions, one superior, the other inferior. These two Portions are closely united backward, making only one Plane; but they are divided above.

The superior Portion is fixed to the Extremities of the three or four lowest spinal Apophyses of the Neck, and of the first, or first and second, of the Back. It is not fixed immediately to the Apophyses of the Neck, which are above the last, but only by the Intervention of the posterior cervical Ligament.

It is, likewise, fixed to the Edge of the internal spinal Ligaments of the other Vertebrae; and, therefore, its Insertions in the spinal Apophyses are not interrupted by the Distances between these Apophyses, but form one thin continued Plane, a little tendinous.

From thence it runs up obliquely toward the Mastoide Apophysis, partly under the upper Extremity of the Sterno-mastoideus, and is inserted in the upper Part of that Process, and along the neighbouring curve Portion of the transverse Ridge of the Os Occipitis.

The inferior Portion of the Splenius is fixed to three or four spinal Apophyses of the Back, beginning by the second or third. From thence it runs up, being closely united to the other Portion, till it reaches the superior and lateral Part of the Neck, where it separates from it, and is inserted in the transverse Apophyses of the three or four superior Vertebrae of the Neck, by the same Number of Extremities a little tendinous; which, however, are sometimes only two in Number. This Portion of the Splenius belongs rather to the Neck than to the Head.

The two Splenii represent a great Roman V, and the Splenius and Sterno-mastoideus, of the same Side, form a Figure like a Roman A, or the Legs of a Pair of Compasses, the Points whereof are in an horizontal Plane. Thus these four Muscles, surrounding the Neck, meet alternately at their upper and lower Extremities.

The two Splenii serve to support the Head in an erect Posture, whether in Standing or Sitting; to moderate the Flexion of the Head forward, and to bring it back again to its natural Posture.

They serve alternately to co-operate with either of the Sterno-mastoidei for the Rotation of the Head; thus when the Right Sterno-mastoideus turns the Head, the Left Splenius corresponds with it by its upper Part; while the lower Part, at the same time, turns the Vertebrae of the Neck.

When we lie on one Side, and raise the Head laterally, the Splenius and Sterno-mastoideus of the opposite Side act in Concert. Also, when we stand, and incline the Head to one Side, it is the Splenius and Sterno-mastoideus of the other Side which moderate that lateral Flexion, and afterwards extend the Head. And as the Sterno-mastoideus is partly inserted in the Clavicula, the Latissimus Dorsi concurs, also, in this Action, and fixes the Clavicle by means of its Connexion with the Os Humeri, which is of considerable Advantage in the Action of the Sterno-mastoideus. *Winflow's Anatomy.*

MASTOIDEUS LATERALIS. See COMPLEXUS MINOR.

MASTOS, *μαστός*. A Breast. See MAMMA.

MASTUPRATIO, or MANUSTUPRATIO. Manual Stupration, a Vice not decent to name, but productive of the most deplorable and generally incurable Disorders. Thus we have given a remarkable History, under the Article AMAUROSIS, of a Series of Distempers caused by this abominable and unmanly Practice. And, under the Article GONORRHOEA, to this we have attributed the most obstinate Gleet. Besides these, incurable Impotence, Lowness of Spirits, hypochondriacal Disorders, and almost all Sorts of chronical Distempers, are excited by it. And it is worthy of Remark, that People accustomed to such Filthiness, are not so easily cured of chronical Distempers, as others who are Strangers to it. For, as *Celsus*, speaking about Venereal Intercourses, prudently remarks, *Cavendum, ne in secundum valetudine adversive praesidia consumantur*. That is, "We should take care, during Health, not to lavish away that Strength of Constitution which should support us in Sickness."

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MASUCHA, *μασυχᾶ*. The Name of a compound Medicine described by *Paulus Aegineta*, Lib. 7. Cap. 23. He, also, calls it *Masnaphium*.

MATALISTA. *Castellus*, from *Wedelius*, defines this to be the third Species of Jalap, or Mechoacan, called by the Indians *Matbalistic*.

MATER. In Anatomy, the two Membranes investing the Brain are called *Dura Mater*, and *Pia Mater*. See CAPUT. In Botany, the *Artemisia*, Mugwort, is called *Mater Herbarum*. In Chymistry, Quicksilver is known by the Name of *Mater Metallorum*.

MATER PERLARVM. Offic. Schrodr. 5. 530. *Concha Margaritifera*. Mont. Exot. 6. Jonf. Evang. Tab. XIII. Bellon. Aquat. 402. Aldrov. Exang. 418. Charlt. Exer. 64. *Concha Mater Unionum*. Rondel. Aquat. 2. 33. *Concha, Mater Unionum dicta, aut Margaritifera*. Bonan. 93. 11. n. 1. *Concha Margaritifera plerisque Berberis antiquis Indis dicta*. List. Hist. Conch. 3. n. 56. *Concha valvis aequalibus, inaequilatera mediocriter vel leviter umbonata, &c.* Lang. Meth. Test. 69. MOTHER OF PEARL.

This is not the Shell in which the Pearl is found, as is commonly said, but a Shell of another Kind, called *Concha Margaritifera*, though it produces no Pearls. This is absorbent and cordial, in the same Degree with Pearls; but then only the purest and most shining Parts of the Shells must be used, being first well levigated on the Porphyry; and these, by the Retort, yield a volatile Salt. *Geoffroy*. See CONCHA.

MATERIATURA. *Castellus* explains *Morbi Materiaturæ*, Diseases of Intemperature.

MATES. The Name of a Fruit mentioned by *Clusius*; and by *Casp. Bauhine*, by the Name of *Fructus, subrotundus, durus, eleganter rubens*. They are described to be of an elegant red, and about the Size of the Seeds of Cassia, or the Carob-tree.

MATHEDORAM. Sal Gemmae. *Rulandus*.

MATORIUM. Gum Ammoniac, or Galbanum, *Rulandus*.

MATRACIUM. A Matras, in Chymistry, is a round Glass Vessel, with a long Neck, used in Digestions, and other Operations.

MATRICALIA. Medicines appropriated to Disorders of the Uterus.

MATRICARIA.

The Characters are;

The Root is annual and fibrous; the Leaves are cut many Ways, and by Conjugations; the Calyx is hemispherical and squamous; the Flowers are collected into Bunches, or form Umbellas, and are generally marked with white Rays.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Matricaria*; vulgaris; vel sativa. C. B. P. 133. *Tourn. Inst.* 493. *Boerh. Ind. A.* 110. *Matricaria, Parthenium*. Offic. *Matricaria*. Ger. 526. Emac. 652. Raii Hist. 1. 557. Synop. 93. *Matricaria vulgaris simplex*. Park. 83. *Matricaria vulgo minus Parthenium*. J. B. 3. 129. FEVERFEW.

The Leaves of Feverfew are large and winged, divided into several Sections, usually about seven, that at the End being the largest; they are deeply cut-in, or lacinated, of a pale yellow-green Colour. The Stalks are stiff, round, or striated, two Foot high, or more, clothed with smaller Leaves, and pretty much branched towards the Top, on which grow large flat Umbels of Flowers, made of several white Petals, broader and shorter than those of the Chamomile, set about a yellow Thrum. The Root is thick at the Head, having many Fibres under it; the whole Plant has a very strong, and, to most, an unpleasant Smell. It grows in Hedges and Lanes, and flowers in June and July. The Leaves and Flowers are used.

This is an Herb, particularly appropriated to the Female Sex, being of great Service in all cold flatulent Disorders of the Womb, and hysteric Affections; procuring the Catamenia, and expelling the Birth and Secundines. The Juice, to the Quantity of two Ounces, given an Hour before the Fit, is good for all Kinds of Agues. It, likewise, destroys Worms, provokes Urine, and is good for the Dropsy and Jaundice. *Miller's Bot. Offic.*

It is of considerable Service, the Decoction of it being drank, in uterine Affections, as may be inferred from its very Name, in provoking the Menfes, expelling the Secundines, and for hysteric Disorders. It performs all the Effects of Bitters, in a commodious manner; and the Herb itself, or its expressed Juice, expels Worms from the Belly as effectually as Centaury or Wormwood: It is good, also, in the Gour. The English and Germans call it *Feverfew*, that is *Febrifuge*, from its Effects. Some, as *Brassavola*, in *Exam. Simpl.* and some skilful experienced Women, as *Tragus* observes, 1. Hist. 50. ascribe to it a purgative Quality; as *Dioscorides* does to his Parthenion. Bees cannot bear the Smell of Feverfew; for which Reason, plethoric Persons, who are principally subject to be stung by Bees and Gnats, would do well to carry about them a Bunch of Feverfew, when they walk in Gardens: The same Effect may be expected from the *Cotula fetida* S. Pauli. For the Hemicrania, take an Handful of the Leaves of Feverfew, heat them in a Frying-pan, and apply them to the Crown of the Head. *Chesneau*. Crude Feverfew, applied to the Crown of the Head, is often found effectual in the Head-ach. S. Pauli. The same Author tells us, that he used

used to prepare a Decoction of Feverfew, and the Flowers of Chamomile, and a little Baum; by which he frequently caused a present Cessation of hysteric Symptoms, with a free and plentiful Flux of the Lochia. *Rail Hist. Plant.*

2. *Matricaria*; vulgaris; vel sativa; barbulis exiguis.
3. *Matricaria*; vulgaris; vel sativa; caulibus rubentibus.
4. *Matricaria*; vulgaris; vel sativa; floribus nudis, bullatis.
5. *Matricaria*; vulgaris; vel sativa; florum petalis fistulosis.
6. *Matricaria*; vulgaris; vel sativa; florum petalis fistulosis, & brevioribus.
7. *Matricaria*; flore pleno. *C. B. P.* 134. *F. B.* 3. 130.
8. *Matricaria*; flore pleno, petalis fistulosis.
9. *Matricaria*; flore pleno, petalis marginalibus planis, discoidibus fistulosis.
10. *Matricaria*; foliis elegantissime crispis; & petalis florum fistulosis. *T.* 493.
11. *Matricaria*; Americana; Ambrosiæ folio; parvo flore albo. *T. App.* 666. *Boerb. Ind. alt. Plant. Vol. I. p.* 110.

It is called *Matricaria* from *Matrix*, because it is of singular Efficacy in Diseases of the Matrix; it is, also, called *Parthenium*, from *παρθένος*; *Parthenos*, a Virgin, for the same Reason. There is in all the Species a peculiar Smell, except in the eleventh, which has no Smell. It is proper in all cold Diseases of the Uterus, and has a more bitter, oleous, and acrid Taste than Chamomile, as favouring somewhat of Camphire and Castor. Hence it is of Service in provoking the Menstrues, expelling the Reliques of the Secundines, false Conceptions, and the Lochia, when retained by a cold Cause. All the Species are medicinal, and retain their Strength for Years. Their Virtues consist in an inflammable, aromatic, and highly volatile Oil: They are of the same Use as Chamomile; and Baths for the Feet are prepared of them, in order to provoke the Menstrues. Feverfew, in Clysters, discusses Flatulences, and is of excellent Service in Surgery, for discussing Tumors and Contusions. A Salt is prepared of the Ashes; and, also, a Water of the recent or fermented Plant; and an Oil, Conserve, and Syrup. The Oil, which has the Name of *Oleum Partheniacum*, dissolves all Tumors, being rubbed on the affected Part. *Hist. Plant. adscript. Boerhaav.*

MATRICARIA MARITIMA. A Name for the *Chamamelum maritimum*.

MATRICARIA Tanacetii folio. A Name for the *Leucanthemum Tanacetii folio*; flore majore.

MATRISYLVIA. A Name for the *CAPRIFOLIUM*.

MATRIX. The same as *UTERUS*; which see. In Botany, it sometimes imports the Pith of a Plant. *Blancard.*

MATRONALIS VIOLA. A Species of Violet, call'd *Dame Violet*.

MATURANTIA. Maturatives; that is, Remedies which promote the due Formation of Matter.

MATURATIO, Maturation, is properly used, with respect to Fruits; but it is employ'd relative to the noxious and morbid Humours in the Body, which generate Diseases; and, in this Sense, it imports their Concoction, Attenuation, or Preparation, in order to their being discharged out of the Body.

MATZATLI. A Name for the *Ananas*; *aculeatus*; *fructu Pyramidato*; *Carne Aurea*. See *ANANAS*.

MAUROMARSON. A Name in *N. Myrepsus*, *Secl.* 7. *Cap.* 6. for the *Marrubium*, Horehound; probably the black Horehound; for *Myrepsus* uses sometimes *μαύρος*, to signify Black.

MAUZ. A Name for the *Musa*; *fructu cucumerino, longiore*.

MAXEINOS, *μαξείνος*. A Name for the *Asellus*, Cod-fish.

MAXILLA. The Cheek; or the Jaw.

MAYS.

The Characters are;

It has the Appearance of the Reed; the male Flowers consist of two long, hollow, carinated, fibrous Leaves, with hairy Margins; within these Leaves are two others more tender, hollow, and carinated, in the Place and Function of Petals; in the Middle of those is the Cotyla, or Cotyledon, whence proceed three Stamina; all these Parts are seated in one Place of the Plant.

In another Place of the same Plant are situated the round Ovaries, growing in a short and peculiar Calyx, and furnished with a very long Tube, and compacted into a close Spike, straitly involved in vaginal Leaves; from whose Apex appear eminent the Tubes of the Ovaries.

Boerhaave mentions three Species of this Plant; which are,

1. Mays; granis aureis. *Turn. Inst.* 531. *Boerb. Ind. A.* 2. 166. *Triticum Indicum*. *Offic.* J. B. 2. 453. *Rail Hist.* 2. 1249. *Fruventum Asiaticum & Turcicum*. *Ger.* 75. *Emac.* 81. *Fruventum Indicum Mays dictum*. *C. B. P.* 25. *Theat.* 490. *Milium Indicum maximum Mays dictum, seu Fruventum Indicum*. *Park. Theat.* 1138. *Tlaolli seu Mays*. *Hern.* 242. *Maizium Mexicanum Tlaolli, vulgo Fruventum Turcicum vel Indicum*. *Pl. Man. Aron.* 199. **INDIAN WHEAT.**

Our Countryman *Gerard*, after *Tabernaemontanus*, multiplies the Species of this Plant, according to the various Colours of the Grain: But they are mistaken; for most of these Varieties may be obtained from the same Seed. We are of Opinion, with *Mat-*

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Thibolus, that *Mays* is native to the *West Indies*, in almost all Parts of which it is to be found; and that from thence it was transplanted into *Africa*, *Asia*, and *Europe*. As for the *Indian Millet*, of *Pliny*, which he says, was brought into *Italy* in the Time of the Emperor *Nero*, we make no Doubt but it was the *Melica*, or *Sorgum*.

Mays is sown in Pits five Feet asunder, four or five Grains in a Pit; it springs up in a few Days, and in the *Indies* it is reaped the fourth Month. In *Germany* we have observed it sown in the Fields, where it delights in a fat, humid, and well-dung'd Soil, and is impatient of Cold and Frosts. The Time of sowing it varies according to the Quality and Temperature of the Climate; for, in some Countries, it perfects and brings its Seed to Maturity in a shorter, in others in a longer time. There is one Species, which is sown and reap'd in three Months; another, which requires only two; and a third, which is ripe in forty Days after Sowing, if we may believe Authors. That it grows remarkably high, and produces several Ears, is owing to the Fertility of the Soil, or the Temperature of the Climate.

Of what Use this Grain is in Medicine, (says *J. Bauhine*) we are not as yet well apprised; however, from its Sweetness, and a kind of Viscidity which belongs to it, we may conclude, that it is of the same Temperament with Wheat, and, therefore, must of Necessity have the same Qualities. Hence its Grains are broken and reduced to a very white Meal, which is made into Bread, and other things of that Nature, tho' this Bread has somewhat of a viscous and obstruent Quality; for which Reason, as it is said, they make no use of it in *Asia* and *Turkey*, but under a Dearth of other Corn. The Bread made of it, says *Dodonæus*, is, indeed, moderately white, when cleansed from the Bran, but hard and dry like Biscuit, without the least Clamminess; for which Reasons it is difficult of Concoction, and affords very little or no Nourishment to the Body; but is slow of Passage, and binding to the Belly, like Bread made of Miller, or Panic.

Fr. Hernandez is very lavish in his Commendation of *Mays*. It is, says he, temperate in Quality, or a little inclining to Heat and Moisture, of a moderate Substance, easy of Digestion, especially to those who are accustomed to it, not of a gross, or, as some think, of an obstruent and viscous Substance, as we may learn by Observation of the *Indians*, who live on this sort of Bread made into Cakes, and yet are not affected with Obstructions, or appear ill-coloured. For these People affirm, that they are sensible of no Oppression of the Stomach, after a hearty Meal; but that, a few Hours after, they are as hungry as if they had eaten nothing, and could fall greedily upon any Food which came in their Way; and that they never knew what the Stone was, before the *Spaniards* came among them. That, among the *Mexicans*, there is no kind of Food more celebrated, or more commodious in acute Distempers, being prefer'd even to Pisan, as appears from a thousand Experiments. It is quick of Digestion, say they, and Passage; affords a Sufficiency of Nutrient to the Body; excites no Sense of Oppression; mollifies the Belly, and the Breast; is a Demulcent of the natural Heat, especially if the Powder of it is suffered to freeze in Water in the Winter Season; provokes Urine; and cleanses all the Passages.

C. Bauhine, I know not upon whose Authority, writes, that the *Indians*, from an excessive Use of this Grain in Food, become tumid, and affected with the Scabies; and that the Negro Boys, who often feed on this sort of Corn, which they beat out of the Ears, instead of Bread, washing and parching it, can never preserve themselves clear from the Scabies, on account of this Grain, which generates Blood too hot, and, in a manner, adust. The manner of making Bread and Wine of *Mays*, by the *Indians*, is described *Hist. C. B. Lib.* v. The Meal is of Service in emollient and suppurating Cataplasms; for, by its Viscidity, it obstructs the Pores, and is very proper for suppurating Impostumes. The Juice of the fresh Leaves has a refrigerating Quality, and is good for an Erysipelas, if Cloths be moistened with it, and apply'd to the Part affected. *Rail Hist. Plant.* 1250.

Mays is nutritious like Wheat, but somewhat heavier, and with more Difficulty raised into a Fermentation, for which Reason the Peasants in *France* usually roast, or parch it, by which means it loses its Viscidity; it is very aperitive, and therefore proper in the nephritic Colic. *Hist. Plant. adscript. Boerhaav.* Dale says, it is used in the making of Chocolate.

2. Mays; granis rubris. *T.* 531.

3. Mays; granis albis. *T.* 531. *Boerb. Ind. alt. Plant. Vol.* 2. p. 16.

MAZA, *μαζα*, a Greek Word, for which there is no Latin one, unless it may be expounded by *Ossa* from *Pliny*. *Maza* was made of the Meal of parched Barley, sprinkled with some Liquid, and was the Food of the meaner sort of People, being eaten crude with *Defrutum*, or Honey, as we are informed by *Aetius* and *Athenaus*. *Erotian in Hippoc.* says that *Maza* is the Meal of parched Barley, work'd up with some Liquid, as *Oxymel*, *Posca*, *Hydromel*, or Water. It is certain, that *Maza* was a more ordinary Food than Bread, because it was made of Barley, and the oilier of Wheat, as *Hippocrates* writes, *Lib. de priscâ Medicina*; and the same Author, almost every-where, opposes *ἀττὸν*, Bread, to *μαζα*, *Maza*; particularly, *Lib. de salubri Dieta*, where

he advises, in the Spring, to exchange Bread, which was most proper in the Winter, for *Maza*, as a softer and less nutritious Aliment; and, *Lib. de prisca Medicina*, he considers Bread and *Maza*, in respect of Diet, the former as the drier, the other as the moister Food.

Maza atriptas, $\mu\acute{\alpha}\zeta\alpha\ \acute{\alpha}\tau\tau\iota\pi\tau\acute{\alpha}$, in *Hippocrates*, is Barley-meal, work'd up with little or no Liquid, *Maza* not work'd at all, or less than it ought to be; and so it signifies in *Aristotle's Physical Questions*. To this is opposed *Maza tripte & rante*, $\mu\acute{\alpha}\zeta\alpha\ \tau\tau\iota\pi\tau\acute{\alpha}\ \acute{\alpha}\ \rho\alpha\upsilon\tau\acute{\iota}$, *Maza* work'd up or kneaded, and sprinkled or moistened with some Liquid, as appears *Lib. 2. de Diata*. $\mu\acute{\alpha}\zeta\alpha\ \tau\tau\iota\pi\tau\acute{\alpha}$ is *Maza* kneaded and mixed with some Substance, either actually humid, as Honey, Wine, or Oil; or dry, as Seeds, or Spices, in respect of which latter, it is called $\acute{\epsilon}\nu\eta\delta\alpha$, *xera*, dry, as in relation to the other, it is styled $\rho\alpha\upsilon\tau\acute{\iota}\ \acute{\alpha}\ \acute{\upsilon}\gamma\gamma\epsilon\iota$ (*rante & hygre*) sprinkled, and moist.

MAZAMA. A Name of the *Cervus minor Americanus*, *Bezoarticus*. See **BEZOAR**.

MAZION, $\mu\acute{\alpha}\zeta\iota\omicron\nu$. A Diminutive of **MAZA**.

MEATUS. A Duct, or Passage. Every Canal in the Body, which conveys any Fluid, may be thus called. The auditory Passage is called *Meatus Auditorius*. The Eustachian Tube is term'd *Meatus a Palato ad Aures*. The Urethra is called the *Meatus Urinarius*. And the *Meatus Cysticus* is the Duct which conveys the Bile from the Gall-bladder towards the *Duodenum*.

MECAPATLI. *Hernandez* mentions four Species of *Sarsaparilla*, the first of which is called *Mecapatli*. See **SARSAPARILLA**.

MECAXOCHITL. Offic. *Hern.* 144. & 873. *Nieremb.* 320. *Raii Hist.* 2. 1671. *Lact.* 231. *Piper longum humiliter fructu & summitate caulibus propendentes*. Cat. *Jamaic.* 45. *Hist.* 1. 136. *Saururus humilis folio carnosio subrotundo*. *Plum.* 53. *Fig.* 70. *Raii Hist.* 3. 643. *Arbor Piperifera fructu longo Floridana*. *Jonst. Dendr.* 180. *Arum moschatum Ophioglossoides sive pene nudo, Jamaicense; an melius Ophioglossum moschatum Jamaicense Limonii foliis in extremo sinuatis?* *Almag.* 51. **SMALL AMERICAN LONG PEPPER.**

It is described by *Fr. Hernandez* as a twining Herb, two Spans in Length, creeping on the Ground, with large fat and roundish Leaves, sweet-scented, and of an acrimonious Taste; the Stalks round, smooth, and twisted, whence arise smooth Pedicles, which creep on the Ground. At the Origin of each Leaf grow fibrous Roots, like Filaments; the Fruit is very like long Pepper.

Mecaxochitl is hot and dry, and may be reckon'd as a Species of Long-pepper. It is drank with Chocolate, to which it gives a grateful Relish: It is corroborative; heats the Stomach, and corrects a fetid Breath; attenuates gross and viscid Humours; resists Poison; is good for the Colic, and Iliac Passion; provokes Urine; and, being mixed with *Tlixochitl*, promotes the Menses; expels the dead Child, and accelerates the Birth; opens Obstructions; removes Colds, and Pains proceeding from them; and gives Relief under the Rigors of Fevers. *Raii H. P.*

It grows in *New Spain*, and is an Ingredient in Chocolate, but is rarely found in our Shops. *Dale.*

MECHANICE. Mechanics. In the last Age Mechanics began to be much employed for explaining the Phenomena of Health and Diseases; and is still much cultivated in Medicine. See the **PREFACE**.

MECHOACANNA ALBA. Offic. *Mecboacan.* J. B. 2. 149. *Ger* 723. *Emac.* 873. *Mecboacan Rhabarbarum album*. *Chab.* 120. *Bryonia Mecboacana alba*. C. B. P. 257. *Bryonia alba Peruviana sive Mecboacan*. *Park. Theat.* 179. *Convolvulus Americanus Mecboacan dictus*. *Raii Hist.* 1. 723. *Tourn. Inst.* 84. *Feticucu Brasiliensis, seu Radix Mecboacan*. *Marcg.* 41. *Pil.* 253. *Tacuache seu Radix Michuacana*. *Hern.* 164. **WHITE MECHOACAN.**

Though this is called Bryony by *C. Bauhine* and *Parkinson*, they being led into that Mistake by *Monardus*, who calls it so; yet since their Time it has been found to be a *Convolvulus*; Mr. *Ray* calling it *Convolvulus Americanus Mecboacan dictus*. It has long, slender, trailing Branches, twisting about every thing like the great *Convolvulus*, with large Leaves not much unlike that, but rounder pointed at the Ends next the Stalk. The Flowers, likewise, are much alike, being white, with a little Redness on the Outside; the Root is large, brown outwardly, and white within; usually parted in two towards the Bottom. It grows in the *Spanish West Indies*, from whence the Root is brought to us, in large, round, flat, transverse Slices, of a white Colour, having little Smell or Taste, easy to cut or powder, being not so firm and hard as Jalap.

It purges serous Humours from all Parts of the Body; and helps the Dropsy, Jaundice, and Rheumatism, working with a great deal of Gentleness, and without Gripping, and therefore it is fit for weakly tender Constitutions: But by reason that a larger Quantity must be given, than most People are willing to take, it is grown very much out of Use. *Stiller's Bot. Off.*

This Root is distinguished from Bryony-root, by being more viscid, being without Acrimony, and of a faint nauseous Taste. It is said to be a strengthening Purge, being given in Substance

from half a Dram to an Ounce; but is not purgative in Decoction. The *Spaniards* prepare from it a white Fecula, called by them *Lac Mecboacanna*, half an Ounce of which is a Dose, powdered and mixed in Broth. *Geoff.*

Mecboacan took its Name from the Country where it was first discover'd, tho' it was afterwards found in several other Parts of *South America*, as *Nicaragua*, *Quito*, and *Brasil*.

It purges pituitous, aqueous, and serous Humours from all Parts of the Body, and especially from the Head, and nervous System, and from the Breast. It works, also, upon Bile, and purges the yellow Water of hydropic Patients; by which very thing we may know, says *C. Hoffman*, that it is no such gentle Cathartic. It is of very good Service in an inveterate Cough, the Colic, Gout, and Lues Venerea; but because it is of an hot and dry Nature: *Schroder* advises not to continue the Use of it for any considerable Time in hot Constitutions. It is hardly ever taken but in Substance, as in Powder, in some proper Liquor, generally Wine, though it may, also, be taken in Broth. It is never exhibited in Decoction, for it is found by Experience to lose all its Strength and Virtue in such a Preparation. The Liquor is not to be exhibited by itself, but in Conjunction with the infused Powder, though *C. Hoffman* writes, that the Liquor taken alone is a Purge. It is not to be kept in Powder; for in this, as in other Powders, the Strength easily exhales; the Powder is to be somewhat gross; the Dose is from half a Dram to a Dram, or two Drams; it is corrected with a third Part of Cinnamon, Anise, or Mastich. Chuse your *Mecboacan* fresh, whitish on the Inside, but not of a splendid White, and covered with an Ash-colour'd, and not carious Bark. *Raii H. P.*

MECON, $\mu\acute{\iota}\kappa\omega\nu$. The Greek Name for the *Papaver*, or Poppy.

MECONIUM, $\mu\acute{\iota}\kappa\acute{\alpha}\nu\iota\omicron\nu$. The concentered Juice of the Poppy, in this Sense it is the same as *Opium*. *Galen de S. F. & de C.* M. P. G. Some, who pretend to more Accuracy, make *Opium* to be a Tear distilling from the Heads of the Poppy, after a slight Incision; but *Meconium* they will have to be the expressed Juice of the Heads and Leaves, or of the whole Plant, which is, therefore, less valuable and efficacious than *Opium*. *Dioscorid. Pliny, Rhodius ad Scribon. Schroder.* See **DIACODIUM**.

Meconium is, also, a Name for the Excrements contained in the Intestines of the Child, after the Birth. See **INFANS**.

MEDEA. The Name of a Composition prepared of Sulphur and humid Bitumen, which, rubbed on the Body, kindles by the Accession of Heat. *Galen de Temper.* It is, also, the Name of a Gem, so called, because it is supposed to be the first discovered by the famous Sorcerers of that Name; but perhaps it would be more properly called *Lapis Medius*, because brought out of *Media*. It is black, with a Gold-coloured Vein; and yields a Juice of the Colour of Saffron, and the Taste of Wine; and is commended, especially by the *Magi*, as a Preservative against Drunkenness, and a Procurer of Love. *Rulandus* takes it to be a Species of the *Hamatites niger*, which yields a Saffron-colour'd Juice. The *Medea* is, also, found in the Territory of *Mansfeld* in *Germany*, which yields the *Hamatites niger*, but the Veins are rather of a pale than a Gold-colour. *Pliny* mentions the *Medea*, *Lib.* 37. *Cap.* 10.

MEDENA, in *Paracelsus*, is a Species of Ulcer.

According to *Castellus*, *Vena Medena* is the same as *Vena Medinensis*. See **DRACUNCULI**.

MEDIANA VENA. A remarkable Vein on the Inside of the Flexure of the Cubit, betwixt the Cephalic, and Basilic Veins, which is frequently opened in Phlebotomy. See **VENA**.

MEDIASTINUM, or, as it is sometimes called, **MEDIANUM**. This is a double Membrane, formed by the Continuation of the Pleura, which comes from the Sternum, and goes straight down through the Middle of the Thorax to the Vertebrae, dividing the Cavity in two. It contains, in its Duplication, the Heart; in its Pericardium, the Vena Cava, the Oesophagus, and stomachic Nerves. For a farther Description of the *Mediastinum*, see **PLEURA**.

Dr. Freund remarks, that the *Mediastinum* has a Cavity; at least as it rises from the Sternum, its two Membranes lie at such a Distance, that it is capable of having an Humour or Pus fall down between them, as *Columbus* first observed, and which he and *Barbette*, order to be taken out by trepanning the Sternum. A Gentleman of Experience and Judgment in every thing relating to Surgery, informed *Dr. Freund*, that Abscesses of the *Mediastinum* particularly happen in Venereal Distempers, and that in such Cases he had frequently used the Trepan with Success.

Avanzoar gives a very singular Case of his own, an Inflammation and Abscess in the *Mediastinum*. Upon his first Disorder, which happened in a Journey, he felt some Pain in that Place, which increased with a Cough; he found his Pulse very hard, and his Fever very acute. The fourth Night he took away a Pint of Blood. His Symptoms were but little relieved; however, as he was obliged to travel all Day, he fell asleep at Night; and during that time the Bandage of the Arm came off. Upon waking he found the Bed swimming with Blood, and his Strength very much weakened. The next Day he began to expectorate a sanious Matter; and though afterwards he grew delirious,

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delirious, and large Quantities of Barley-water, as he had before-hand ordered himself, were given him, yet he attributes his Cure to the great Evacuation of Blood, which he had. The Symptoms in this Sort of Abscess, in general, he says, are a continual successive Cough; a tensive Pain Lengthways, a Disorder in Breathing, which makes it frequent and small; an acute Fever; a great Thirst, and a hard unequal Pulse. Therefore Bleeding, in the Beginning, is absolutely necessary.

MEDICA.

The Characters are;

The Fruit is a Pod, which is bent and crooked like a Ram's Horn.

Boerhaave mentions six Species of this Plant; which are,
1. *Medica*; major; erectior; floribus purpurascens. *J. B.* 2. 382. *Raii Hist.* 1. 960. *Tourn. Inst.* 410. *Boerb. Ind. A.* 2. 35. *Medica*. Offic. *Trifolium Burgundicum*. Ger. 1020. Emac. 1189. *Falcata siliqua cornuta sive Medica*. C. B. P. *Fenum Burgundicum sive Medica legitima*. Park. Theat. 1113. MEDIC-FODDER.

Medica is so called, as *Pliny* says, from *Media*, because it was brought from thence into Greece, in the Time of the Persian Invasion, under *Darius Hyflaspis*.

It grows not only spontaneously in several Parts of Spain, but is, also, carefully cultivated for the Use of Cattle especially, instead of common Hay, because it is so fruitful as to yield several Crops in a Year. The French call it *St. Foin*, and *Foin de Bourgogne*; and in the Southern Parts of France they sow their water'd Meadows with it, and mow it three times every Year, the Root being perennial, and retaining its Fertility: It delights in a fat and well-manured Soil, as the *Onobrychis*, on the contrary, does in a dry and gritty, or sandy one. In Spain, where it is constantly used, it is found, by Experience, to nourish and fatten Cattle, and improve them far beyond any other Fodder, dry or green; but it must be given them with Moderation, because it inflates, and generates much Blood. It fattens the Soil, and is so sweet and nutritive, that it is necessary to restrain Cattle in their feeding on it, lest they should burst, or require Bleeding. It cures most Diseases in Cattle, and *Columella* writes, that nothing is so effectual towards the Cure of Males when Hide-bound, as *Medica*. The dry Seed, says *Dioscorides*, on account of its grateful Relish, is mixed with Salt in Pickles, the green Seed, made into a Cataplasm, relieves those who want Refrigeration.

2. Eadem (1) flore ceruleo.

3. Eadem (1) flore violaceo.

4. Eadem (1) flore fusco.

5. Eadem (1) flore viridi.

6. Eadem (1) flore ex luteo & violaceo misto. *Boerb. Ind. alt. Plant. Vol. 2. p. 34.*

Besides the foregoing Species of *Medica*, *Boerhaave* mentions twenty-two other Sorts, with a cochleated Fruit, none of which have particular medicinal Virtues ascribed to them, at present, that I know of.

MEDICAGO.

The Characters are;

The Fruit is flat, orbicular, and, as it were, full of Seeds, which are generally Kidney-shaped.

Boerhaave mentions three Species of this Plant; which are,

1. *Medicago*; trifolia; frutescens; incana. *Tourn. Inst.* 412. *Boerb. Ind. A.* 2. 35. *Cytisus*. Offic. *Cytisus incanus siliquis falcatis*. C. B. P. 389. *Raii Hist.* 1. 973. *Cytisus septimus cornutus*. Ger. 1124. Emac. 1305. *Cytisus siliqua incurva*. Chab. 78. *Cytisus Galeni creditus*, *Maranthæ cornutus*. Park. Theat. 1471. SHRUB-TRIFOIL.

It is cultivated in Gardens, and flowers in the Summer. The Leaves are used, which are of a refrigerating Quality, and discuss Tumors. The Decoction, drank, provokes Urine. *Dioscorides*. Of the Wood hereof the Turks make the Hilts of their Swords; and the *Colwieri*, or Monks of the Isle of *Patmos*, their Beads, on which they number their Prayers.

Though the Antients have described but one Species of *Cytisus*, and that in an imperfect manner, the Moderns have discovered a Multitude of Plants to which they give that Name; and, therefore, the Plant here proposed is as likely to be the *Cytisus* of *Dioscorides*, as any other of them; and seems to claim that Name before the rest, because *Volckamer* assures us, that the Turks make such Use of it, as was said before; whence it follows, that, if it be not a Native of those Countries, it is, at least, well-known there. Dale.

2. *Medicago*; annua; trifolii facie. T. 412. *Trifolium*, siliqua falcata. C. B. P. 330. *Medica Lunata*, J. B. 2. 386.

3. *Medicago*; vulnerariæ facie; Hispanica. See ANTHYLLIS prior. *Boerb. Ind. alt. Plant. Vol. 2. p. 35.*

MEDICAMENTOSUS LAPIS. This Stone is prepared in the following manner;

Pulverize, and mix together, of the Colcothar, or red Vitriol, remaining in the Retort after Distillation, or, if it cannot be had, of Vitriol calcined to Redness, two Ounces; of

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Litharge, Alum, and Armenian Bole, each four Ounces: Put this Mixture into a varnished Vessel, and pour as much good Vinegar upon it, as arises two Inches above the Ingredients; stop the Vessel, and leave the Whole in Digestion, for two Days. Then add eight Ounces of Nitre, and two Ounces of Sal Ammoniac: Place the Vessel on a Fire, and consume the Moisture; calcine the remaining Mass, which will amount to eighteen Ounces two Drams, for about an Hour, over a strong Fire, and preserve it for Use.

This is a good Remedy for stopping Gonorrhœas; and the Method of using it for this Purpose is, to dissolve a Dram of it in Plantain or Forge-water, to be injected into the Penis. It is, also, excellent for cleansing the Eyes in the Small-pox; for which End, seven or eight Grains of it must be dissolved in four Ounces of Plantain or Eyebright-water, which is to be used as a Collyrium. It is, also, proper for stopping Hemorrhages, when externally applied to Wounds. When dissolved in the Water of Knot-grass, it produces almost the same Effects with the styptic Water, and is of a vulnerary Quality.

This Stone is dignified with the pompous Epithet *Medicinal*, on account of the happy and surprising Effects it produces.

The Colcothar remaining in the Retort after the Distillation of Vitriol must necessarily be more proper for this Purpose than any other; because, being deprived of the greatest Part of its Spirits, it must, of course, be of a more astringent Quality.

Litharge, which is a calcined Lead, Alum, and Armenian Bole, are, also, very considerable Astringents, productive of happy Effects in this Composition.

The Vinegar is used in order to unite all these Ingredients, and make them ferment with each other; after which, the Nitre and Sal Ammoniac are easily mixed with the other Materials.

The last Calcination is in order to carry off a Part of the Acid, and augment the Astringency of the Medicine. It, also, renders the Stone of a more fixed Nature, and, consequently, more capable of being kept.

This Medicine, among others, I have, from Experience, found proper for stopping Gonorrhœas, when it is expedient to do so by means of Injections.

In many Cases I prefer the Lapis Medicamentosus thus prepared, to that directed by *Crollius*, in the following manner:

Pulverize, and mix together, of Alum, nine Ounces; of green and white Vitriol, each six Ounces; of Anatron, one Ounce and an half; or, if that cannot be had, an equal Quantity of common Salt; of the Salts of Tartar, Wormwood, Mugwort, Succory, Arse-smart, and Plantain, each two Drams: Put the Mixture in a pretty large varnished Earthen Vessel; pour upon it a small Quantity of the Vinegar of Roses: Mix all well together. Put the Vessel on a moderately brisk Fire, and the Matter will boil, and rise in Bubbles; stir it frequently with a Spatula, and, when it begins to grow thick, add of the Powder of Cerufs, three Ounces; and of the Powder of Armenian Bole, two Ounces: Mix intimately, and continue to consume the Moisture of the Mass, till it assumes the Consistence of a Stone. After which, preserve it carefully, because it easily admits the Moisture of the Air.

Towards the End of this Process we may add some Gums, such as the Powders of Myrrh, and male Frankincense, of each half an Ounce. But, in this Case, there must only be a very gentle Fire under the Vessel, for fear of burning the Gums, and dissipating their Virtue, which principally consists in their volatile Parts.

This Species of Lapis Medicamentosus is of a vulnerary, detergent, drying Quality; and is used for the Cure of Itches, scald Heads, Wounds, and Ulcers; for which Purposes, an Ounce of it is dissolved in a Pint of Rain or River-water, in which Linen Cloths are to be dip't, and applied to the Part affected; it is, also, like the former, used for drying Injections.

The green and white Vitriols are of the same Virtues, and produce the same Effects, in this Preparation; for which Reason either may be used without the other.

There is, also, another Species of Lapis Medicamentosus, commonly called *Lapis Philosophorum*, and prepared in the following manner:

Pulverize, and mix together, of Roch-alum, and Roman Vitriol, each twelve Ounces; of Cerufs, and white Bole, each two Ounces; of the Salt of Tartar, one Ounce; of Camphire, and male Frankincense, each two Drams. Put the Mixture in an Earthen Vessel; pour upon it six Ounces of Vinegar, agitating it with a Spatula. Place the Vessel over a gentle Fire, and suffer the Matter to be indurated to the Consistence of a Stone.

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This Preparation is detergent, drying, and proper for curing Ulcers. An Ounce of it, powdered, is to be infused in twelve Ounces of White-wine, and Plantain-water; and, after the Infusion is filtrated, small Linen Cloths are to be dipt in it, and applied to the Part affected. *Lemery Cours de Chymie.*

MEDICAMENTUM. A Medicine.

MEDICINA. Medicine. See the PREFACE.

MEDICINALES DIES are those Days, in Fevers, which are neither critical, nor indicatory; and on which it is proper to administer Remedies of Importance, and to evacuate.

MEDI COCTIO. A sort of medicated Apomeli, described by *N. Myrepsus, Sect. 34. Cap. 20.*

MEDICON. The Name of a poisonous Composition; the same as PHARICUM; which see.

MEDICUS. A Physician.

MEDI MALAGMA. The Name of a Malagma described by *Celsus, Lib. 5. Cap. 18.*

MEDIMNUS, μέδιμνος. A Greek or Attic Measure of Capacity for things dry, such as Wheat, Barley, Flour, and the like; it contained forty-eight Chœnices, that is, about four Pecks six Pints, *English Measure. Arbutnot.*

MEDITULLIUM, is used sometimes to express the spongy Substance contained betwixt the two Tables of the Cranium, otherwise called *Diploe*: And sometimes it imports the Pith of Vegetables.

MEDIUM. See CAMPANULA.

MEDO. Mead, or Hydromel. *Castellus.*

MEDULLA, in Anatomy, has various Significations: Thus the white Substance of the Brain is called the *Medulla*, or medullary Part thereof; to distinguish it from the cortical Part; and the spinal Marrow is called the *Medulla Spinalis*. See CEREBRUM. But, properly, *Medulla* imports the Marrow of the Bones. See Os. In Pharmacy the Marrows of many Animals are recommended as Medicines: Thus *Schroder* takes notice of the Marrow of the Ox, the Dog, the Stag, the Horse, the Goat, the Kid, the Sheep, and the Calf. *Dioscorides, Lib. 2. Cap. 95.* informs us, that the best Marrow is that of the Stag; next to which is that of a Calf; and after them, in Order, are those of the Bull, Goat, and Sheep. The best Time for collecting Marrows is towards Autumn; for at other Seasons of the Year they appear bloody, and are found to be brittle like Flesh. This is an Observation not so easy to be made, and obvious to none but those who make it their Business to extract them from the Bones, and reserve them for Use.

All Marrows are mollifying, rarefying, give Relief by Friction under Lassitudes, and incarnate Ulcers. The Marrow of a Stag, rubbed on any Part, preserves it from the Bites of venomous Beasts. The Way of curing it, when taken fresh out of the Bones, is the same as for Fat; for first they work it in Water, then strain it through a Linen Cloth, and repeat the Operation till the Water appears pure. After this, they melt it in *Diplomate*, (a double Vessel) taking off the Scum with a Feather; and pour it into a Mortar, where, suffering it to cool, they carefully take away the Fæces, which had subsided to the Bottom, and repose it in a new Earthen Vessel. If you think fit to reserve it uncured, you are to take exactly the same Method as directed for the Fat of Hens and Geese.

MEELCAGE. See AGE VITA.

MEERN. The Name of a Species of *Indian Reed*, the same as CANNACORUS.

MEGALEION, μεγαλειον. The Name of an Unguent described by *Dioscorides, Lib. 1. Cap. 69.* as different from the Mendesium; though *Galen* says, they are the same, in his *Treatise de C. M. S. L. Cap. 2. Lib. 2.*

MEGALOSPLANCHNOS, μεγαλοσπλANCHNOS, from μέγας, great, and σπλANCHNON, a Bowel, in *Hippocrates*, is one who has large and tumefied Viscera, through some preternatural Affection, as a Scirrhus, œdematous Tumor, or an Inflammation, and especially the last. Thus, 3 *Epid. Stat. pest. Ægr. 13.* *Apollonius* of *Abdera*, who, after a long and obstinate Pain of the Liver, was at length seized with an Inflammation of that Part, is said to be μεγαλοσπλANCHNOS. And, *Lib. de R. V. I. A.* Hydromel is pronounced to be prejudicial to bilious Persons, and μεγαλοσπλANCHNOS, that is, to such as labour under an Inflammation of some one of the Viscera; for so *Galen* expounds the Word; "For," says he, in this Place, the common Name (μεγαλοσπλANCHNOS) is appropriated to those who labour under an Inflammation; "since the Fever is not excited by a Scirrhus, or Oedema. It is certain then, that in acute Diseases, of which he is now treating, if a Tumor should arise in the Viscera, it can be no Symptom of a Scirrhus, or Oedema, but of an Inflammation, and the Patient in that Case is called *Megalosplanchnus*." *Prothius* gives the same Explication of the Word, expounding it of one who has the Viscera tumefied by an Inflammation. In much the same Sense is the Spleen, in several Places, said, by *Hippocrates*, to be μέγας, great, when it is tumefied or inflamed; and μέγα ὑποχονδριον, "A great Hypochondrium," 6 *Epid. Sect. 2. Aph. 28.* is one affected with an Inflammation. In a different and metaphorical Sense, *Megalosplanchnus* is applied to a Person of great Generosity and Virtue; agreeably to which μεγαλοσπλANCHNOS, in *Euripides*, is called μεγαλήτερον, magnanimous;

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and, with the Antients, the Word frequently signified, one of large and robust Viscera, and qualified, above the common measure, for the Discharge of all bodily Functions. Again, the Term is applied to such Things as cause a Tumefaction of the Viscera; thus, *Lib. de R. V. I. A.* sweet Wine is said to be μεγαλοσπλANCHNOS of the Spleen and Liver, that is, tumefactive of those Parts, by the Slowness of its Passage causing Obstructions, and so producing a Tumor and Distension of those Viscera.

MEL. Honey.

Theophrastus distinguishes Honey into three Kinds; the first is, that which the Bees make from Flowers; the second descends from the Air, when, for Instance, a certain Liquor, raised from the Earth, falls down upon it again, after having been concocted by the Sun; the third, which he called μέλι καλλάμινον, or Honey of Reeds, is Sugar. *Hippocrates* mentions a Species of Honey, which he calls κέδεινον μέλι, or Honey of Cedar. Some are of Opinion, that this was a sort of Manna produced by the Cedar-tree: But *Salmasius* imagines, that it was rather an Oil, or an oleous Liquor, called *Honey*, because it was of the same Consistence with that Substance, which Turpentine almost is.

That Species of Honey which is produced on Mount *Hymettus*, in *Attica*, and derives its Name from that Mountain, is of all others the best. Next to that, is the Honey produced in the *Cyclades*, and that found in *Sicily*, known by the Name of *Hyblaean Honey*. That Species is best, which is sweet and acrid, fragrant, of a yellowish Colour, not liquid, but glutinous and firm; and which, when handled, is so viscid, as, when drawn out, to shrink back to the Fingers. This Substance is of an abstergent Quality, opens the Mouths of the Vessels, and promotes an Evacuation of the Humours; for which Reason it is very proper to be instilled into fordid Ulcers, and Sinuses. When boiled, it conglutinates disjoined and separated Parts, if applied to them. An Ointment prepared of Honey, and liquid Alum, cures the Lichen: When triturated with fossile Salt, and dropt into the Ears, it is good for Ringings and Pains thereof: If used by way of Ointment, it kills Lice and Nits. A Denudation of the Glans Penis, not proceeding from Circumcision, is perfectly cured, if for thirty Days, especially after Bathing, the Glans is softened with Honey: It deterges the Eyes, and, when used, either by way of an Ointment, or a Gargarism, it cures Quinsseys, and Inflammations of the Throat and Tonsils: It provokes Urine, allays Coughs, and is highly beneficial to those who have been bit by Serpents, or here taken too large Quantities of the Juice of Poppy, if exhibited warm, with Oil of Roses. Honey, also, when used either as a Linctus, or a Draught, is good against the poisonous Qualities of Funguses, and the Bites of mad Dogs: But, when used crude, it inflates the Abdomen, and excites a Cough; for which Reason it is not to be used till it is sufficiently despumated. Honey produced in the Spring is best; next to which is that obtained in the Summer; but that with which the Winter furnishes us is esteemed the worst of all, because it is coarse, and produces Eruptions on the Skin.

The Honey produced in *Sardinia* is bitter, because, in that Country, the Bees principally feed on Wormwood: This Species of Honey is, however, an excellent Ointment, not only for Freckles, but, also, for other Spots of the Face. *Dioscorides, Lib. 2. Cap. 10. and 11.* See ÆGOLETHRON.

Honey is thought to be heating, drying, nutritive, abstergent, aperient, friendly to the Lungs, diuretic, and proper for curing Coughs, and resisting the bad Effects of Poison: When used externally, it removes Dimness of Sight, and relieves other Disorders of the Eyes.

Among the Learned it is not perfectly agreed upon, what Honey is; for some assert it to be only a sweet nectareous Juice, discharged from certain Flowers by way of Sweat. This was the Opinion of *Cordus*, who informs us, that it is well known to Country-people, who, from their Infancy to an extreme old Age, have made it their Business to investigate the Nature of Bees, that these Animals, when intending to make Honey, only deposit the Liquor collected from Flowers in their Combs; but that they by no means convey the Honey-like Dew, when it falls, to their Combs; which, says he, I myself have found to be true. Hence, though, when this Honey-like Dew falls, the Bees flock in great Numbers to it; yet this is not with a View to convey it to their Hives, but only to use it as Food, with which they often so glut themselves, as not only to become languid and inactive, but, also, to such an Excess, as to fall the Victims of their Gluttony: Hence the Country-people assert, that these Honey-like Dews are excellent Food for those Animals, but contribute nothing to the Production of Honey. But, says *Mr. Ray*, I am of a contrary Opinion; and not only I, but all those Virtuosi, who have carefully observed the Nature, Action, and whole Economy of Bees, and who are more to be trusted than ordinary Country-people, who, without any Examination, generally embrace and obstinately adhere to the Opinions and Traditions of their Forefathers: For, says that learned Gentleman, with whom I agree, I have observed, that after a Fall of these Honey-like Dews, almost the whole Swarms of the Hives, leaving the smallest at home, fly abroad, and, with surprising Industry and Expedition, load themselves with Honey, which they convey to their respective

respective Hives; going and coming as often as they can, till the Heat of the Sun has dissipated the Dew. *Pliny*, in *Hist. Natural. Lib. 16. Cap. 8.* informs us, that the Honey-like Dews, falling from Heaven, are found in greater Quantities on the Leaves of the Oak, than on those of any other Tree. And *Dr. Butler*, in his *Treatise de Apibus, Cap. 6.* tells us, that we are more indebted to the Leaves of the Oak, than those of any other Tree, for the Preservation of the Honey-like Dew, or Liquor, which descends from the Air, and of which the Bees make Honey. And *Theophrastus*, in his Book *de Melle*, affirms, that the Bees make Honey of the Honey-like Dew. *Dale*.

Without entering into any long Dispute about the Origin of Honey, I shall only remark two Circumstances; one is, that Honey will taste of the Plants from whence it is collected, as *Dioscorides* remarks, with respect to the *Sardinian* Honey; and, under the Article *ÆGOLETHRON*, we have shewn from unquestionable Authority, that the Flowers of this Plant communicate their poisonous Quality to the Honey which the Bees collect from them: This seems to render it highly probable, that Honey is a vegetable Production.

The second Circumstance is, that Honey, dissolved in Water, ferments, and hence a vinous Spirit is generated; and this seems to put it beyond Dispute, that Honey is a vegetable Substance; for nothing in Nature yet discover'd will ferment, and yield a vinous Spirit, except vegetable Substances.

Lemery gives the following Account of Honey.

Honey is composed of the most essential Substance of various Flowers, which the Bees extract, and convey to their Hives, as proper Nourishment: These sagacious Animals, having, with exquisite Contrivance, formed small hexagonal Cellulæ, in Plates of Wax, fill them with Honey, which they intend for their Winter Store.

This sweet Substance discovers itself in several Species of Flowers, such as those of common Trefoil, Roses, and Gilly-flowers; for it we chew these, especially their inferior Parts, called the *Ungues*, contained in the Calyx, we perceive a sweet and agreeable Taste: This Substance, in the Bee, and in the Hive, is so elaborated, as to render it perfect, and reduce it to Honey.

Four Circumstances principally contribute to render Honey good: First, The Warmth and Purity of the Air; for it is observable, that the Honey produced in hot Climates, such as *Lauguedoc* and *Dauphiny*, is generally better than that furnished in colder Countries. It is, also, remarkable, that all the Places in the same Country are not productive of equally good Honey; since a Mountain, for Instance, on one of its Sides, or Declivities, furnishes far better Honey, than can be found in any other Part of it. But this Difference is, probably, occasioned by the different Situations, with respect to the Influence of the Sun.

Secondly, The Goodness of Honey depends upon the Bees, according as they are more or less tame, and of the domestic Kind; for sometimes wild Bees take Possession of Hives.

Thirdly, The Goodness of Honey depends upon the Pasturage of the Bees; for, according to the Nature and Efficacy of the Plants they suck, so they produce an Honey more or less good and fragrant. We, also, observe that the Places most proper for producing good Honey, are those of the mountainous Kind, shelter'd from the North Wind, and exposed to the East, or South, because in such Places the Bees find Plants of a more aromatic, strong, and efficacious Nature than elsewhere. Besides, in such Retreats, these Animals live with more Tranquillity, than in the Plain.

The Flowers most proper for the Production of Honey, are those of Rosemary, Thyme, Lavender, Primroses, Violets, Marjoram, Babbicon, Bains, Sage, Rosa solis, Penny-royal, Betony, Gilly-flowers, Marigold, Lily of the Valley, Roses, and the *Egyptian* Thorn.

In the fourth Place, The Goodness of Honey depends on the Method of preparing it, after it is taken from the Hives; for sometimes, according to the Management, the Honey produced in one and the same Stove is more or less beautiful and fine.

Honey may be taken from the Hive at two Seasons of the Year, that is, the Spring and Autumn. But though Authors are of different Opinions with respect to the Choice of these different Seasons, yet the Spring, to me, seems to be the most proper, for the following Reasons; first, At this time the Bees are in their greatest Vigour, since they then quit the Hive, take Flight, and form new Colonies. Secondly, In the Spring the Bees sip the Dews, which fall copiously in the Month of *April* and *May*, and especially in hot Climates, where, in soft and serene Weather, this Dew is condensed, on the Leaves of the Tree, into Grains as large as Coriander-seeds, and which are of a sweet and agreeable Taste; this is what is commonly called the *Manna of Briançon*. Thirdly, The Spring is preferable, on account of the Goodness and Purity of the Juices of the Plants at the Renovation of the Herbs.

There are two Kinds of Honey, one of a white, and another of a yellow Colour; the former is extracted without Fire, by laying the Plates of Wax, full of new-made Honey, upon Twigs of Ozier, or putting them into Table-cloths whose four Corners

are tied to four Supporters, with proper Vessels under them; by which means there flows from these Cakes, or Plates, of Wax, an excellent, white, and beautiful Honey, which coagulates, and is commonly called *Virgin Honey*.

This Species of Honey may, also, be obtained from the Cakes of Wax by Expression; but, when procured in this manner, it is not so beautiful as the former.

The yellow Honey is extracted from all kinds of Combs found in the Hive, whether new or old, provided they are full of Honey. The Method of obtaining it, is, first, to squeeze the Combs, and warm them with Water. Then, wrapping them up in Bags of thin Linen, they are subjected to the Press, in order to have the Honey squeezed out; the Wax, in the mean time, remains in the Bags, though some small Portions of it always pass thro' them, as we afterwards find in distilling the Honey.

The yellow Honey is most common, and prepared most universally. It ought to be new, concreted, and of a pretty thick Consistence, of a yellowish Gold-colour, and of an agreeable Smell. In this Species of Honey the Alchymists search for Gold, on account of its Colour, which, in some measure, resembles that of this Metal. They, also, suppose, that in this Species of Honey they must necessarily find a large Quantity of Universal Spirit, because it is drawn from Flowers, in which, they imagine, this Spirit is more copiously concentrated than any-where else.

The White or Virgin Honey is pectoral, excites Expectoration, assists Transpiration, restores and confirms the Strength, and renders the Body soluble.

The yellow Honey is of a detergent, laxative, digestive, attenuating, and resolvent Quality.

PROCESSES UPON HONEY, FROM *LE MERY*.

Distillation of Honey.

Put four Pounds of good Honey into a large Earthen Cucurbit; distil the Moisture from it by a moderate Sand-heat, till acid Drops begin to be discharged. Then remove the Fire, and preserve this Water in a Bottle.

It will amount to twenty-five Ounces, be of a yellowish Colour, of a pretty agreeable Smell resembling that of Honey, and of a somewhat acid Taste. It is cordial, pectoral, aperient, and makes Nurses lose their Milk, if they drink two Ounces of it twice or thrice a Day: It is, also, good for making the Hairs grow, if the Combs used are moistened with it every Day, or a small Quantity of it be put about the Roots of the Hairs, by means of a Piece of Sponge.

Take the Matter remaining in the Cucurbit, and put it in an Earthen or Glass Retort luted, and of which two Thirds remain empty. Then place your Retort in a reverberatory Furnace; adapt to it a large Receiver, and lute the Juncures carefully. Begin the Distillation by a gentle Fire, for three Hours, in order to warm the Retort; augment the Fire by little and little, and the Spirit of Honey, together with a small Quantity of black Oil, will come over, in the Form of Clouds, which fill the Receiver. Continue the Fire till nothing more is yielded. Take off the Luting of the Vessels, and, by means of a Funnel lined with filtering Paper, separate the Spirit from the black and tend Oil, of which there will be only a small Quantity. Preserve both the Spirit and Oil in Phials.

You will have twelve Ounces of a dark-red-coloured Spirit, which deeply tinges the Fingers with an Orange-colour, not to be effaced sooner than eight or nine Days, and of an highly empyreumatic Smell, tho' not very disagreeable, and of an acid, sharp, and pungent Taste.

This Spirit is an excellent Aperient, and may be put into Julaps, in so large a Quantity, as to render them very acid.

The Spirit may be rectified, by distilling it with a Sand-heat from a Glass Cucurbit, and by keeping that which ascends, last, by itself, as the most strong and efficacious. It is used to cleanse old Ulcers, and consume fungous and luxuriant Flesh.

The Oil is accounted good for a Caries of the Bones.

There will remain in the Retort twenty-six Ounces of a Matter, which is black, highly spongiour, and inflammable in consequence of the fuliginous Substance remaining in it. If this Matter is subjected to Calcination in an Earthen Vessel over a brisk Fire, it is, at first, kindled, like an ordinary Coal; but is not, like that, reduced to Ashes; for it will preserve both its Form and Colour, and only lose five or six Ounces by a Calcination protracted for ten Hours. This Matter, when calcined, acquires a somewhat saline Taste; and, if Water is poured upon it, it ferments almost like Quick-lime. It is manifestly of an alkaline Quality, since it produces an Effervescence with Acids.

From this calcined Caput Mortuum of Honey, we may, by Lixivation and Evaporation, obtain a Dram and an half of a fixed, alkaline, acrid, and penetrating Salt, which is of an aperient Quality, and proper for resolving and attenuating viscid Humours. The Dose of it is from half a Scruple to two Scruples. *Berhaave*,

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Boerhaave, however, seems to say, that a fixed Salt cannot be obtain'd from the Caput Mortuum of Honey.

Very large Vessels, are necessary for the Distillation of Honey, because it requires a great deal of empty Space for its Rarefaction.

The Water first obtained is call'd Dew of Honey, and is generally distilled by means of a Vapour-bath. It is clear like common Water, smells like Honey, and is insipid to the Taste, though, at the same time, it contains an Acid, for it renders Turnsole red. It is highly esteemed, and much used by Chymists, because they imagine it full of an universal Spirit, capable of contributing to the Generation of Gold. I could never discover any other Virtues in it than those of the common Water of Honey, than which it, also, operates more weakly.

The Water of Honey makes the Hairs grow, because it opens the Pores: For this Purpose, some mix the Juice of an Onion with it, and dissolve in it a little of the Dung of Mice, in order to render it more efficacious.

Sometimes we find in the Receiver a small Quantity of Wax, separated from the Honey, with the Spirit, in Distillation. But if the Honey used is pure, no Wax will be found.

Honey contains a great deal more Oil than is separated from it by Distillation, since a Portion of the Oil always remains intimately mixed with the Water and the Spirit; for if these two distilled Liquors are suffered to remain in a State of Rest for some Months, a small Quantity of Oil is precipitated to the Bottom, and some Portion, also, adheres to the Sides of the Vessel; for the Oil which subsides is rendered heavy by the Salts with which the Fire naxes it; and that which adheres to the Sides of the Vessel greatly resembles Tartar, not only in the Figure and Disposition of its Parts, but, also, in its acid Taste.

The Spirit of Honey, when rectified, is entirely clear, but somewhat yellow; its Smell is empyreumatic, and disagreeable; its Taste loses somewhat of its Acrimony. And this is what we call the Spirit, or Acid, of rectified Honey.

We find in the Bottom of the Cucurbit used in rectifying the Spirit of Honey, a tartarous Matter, of a black Colour, an empyreumatic Smell, and of an acid penetrating Taste. This Matter is good against Aphæ, or small Ulcers, formed in the Mouth. It is, also, proper for detaching Wounds, and resisting a Gangrene; and is, properly speaking, a Tartar of the Spirit of Honey already mentioned. If the rectified Spirit of Honey is put in Digestion with Leaf gold, it dissolves a small Portion of that Metal, but without producing any sensible Effluence. It, also, dissolves Iron, Lead, and Silver.

The Coal, or black Matter, taken from the Retort after the last Distillation of Honey, is almost insipid; but, when chew'd, gives some faint Indications of Salt, perceptible to the Taste. If, after the first Cremation, and a Separation of the Salt by Lixivation, we dry it, and repeat the Calcination, it takes Fire as before, and is not reduced to Ashes, but is no more alkaline, but insipid, and yields no more Salt.

If we lay upon a Paper a small Quantity of this Coal, reduced to a gross Powder, and either hold a Knife, touch'd with a Loadstone, sufficiently near it, or gently move the Powder with the Knife, we forthwith perceive a great many Particles of the Coal attracted by the Knife, and adhering to it, in the same manner as Filings of Iron do to a Loadstone. This Experiment shews, that the Coal of Honey contains a certain Portion of Iron, since we have not hitherto discovered any Matter capable of being attracted by the Loadstone, besides Iron. See the *Memoires de l'Acad. Royale des Sciences*, for the Year 1706.

Though Honey, in its natural State, is possess'd of an highly sweet Taste, yet none of its Principles, when separated, retain that Relish of it; on the contrary, we find only these Principles to be acid, acrid, or saline, whilst the other Parts are insipid, and the natural Taste of the Honey lost. It is, also, impossible so to re mix these Principles, as again to produce a sweet Taste; for, in order to this, there must be a very exact Mixture of the Acid with the Oil, or the Sulphur. The Oil alone is vapid, and passes over the Nerves of the Tongue, without making any Impression upon them. The Acid, on the contrary, in some measure, stimulates and irritates these Nerves, subservient to Taste. But, when these two Substances are united and combined, the Particles of the Oil to embrace the acid Particles, as, in some measure, to absorb them, and prevent their exciting the same Irritation; however, they still irritate enough to give a gently penetrating Quality to the Oil, which is their Vehicle, and produce upon the Nerves subservient to Taste, the agreeable Sensation we call Sweetness. This Reasoning is agreeable to what is observ'd in a great many Experiments, for from all sweet Substances we obtain, by Distillation, an Acid, and an Oil; and those Principles being distill'd and separated, there no longer remains any Sweetness. Sweetness is, also, produced by exactly mixing an Acid with a sulphureous Matter; for, if we dissolve Lead in Vinegar, the Solution will be sweet. But it does not, from this, follow, that every time we mix acid Liquors with oleous or sulphureous Substances, the Mixture will be sweet, since daily Experience convinces us of the contrary; for, in order to produce Sweetness, the Acid must be intimately incorporated with the Oil, which is frequently

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done by Nature, but rarely by Art; since, for that Purpose, a certain Combination of Principles, not easily hit upon, is absolutely necessary. *Lemery Cours de Chymie*.

PROCESSES UPON HONEY, FROM BOERHAAVE.

Honey, dissolved by Water, affords, by Distillation, a Water impregnated only with the Smell of Honey.

Take one Part of pure and perfect native Honey, and six Parts of pure Rain-water: Mix them well together, and distil them in a Glass Vessel, with a moderate Fire. The rising Vapour collects in watery Drops scattered upon the Inside of the Alembic-head, without running down in Rivulets, though two Thirds of the Water be thus drawn off: Nor has this Water any vinous Odour, but only that of Honey, which often retains the Fragrance of the Flowers whence the Bees collect it. All the Water, which thus comes over, quenches Fire; and, upon drinking, proves very insipid, without heating, or inebriating.

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Hence we learn, that the most elaborate Juices of Plants, produced and perfected in the Cells of Flowers, and thence collected by the Bees, contain nothing at all of that Spirit which they afterwards yield by Fermentation: Whence we clearly see, that the Action of the Sun upon the Juices of Plants, so long as they remain therein, can never produce the requisite Effect of a true Fermentation; and, consequently, that pure Honey has not any heating, drying, or constringing Virtue, but one which is attenuating, deterging, relaxing, stimulating, and saponaceous; whence it has excellent Effects both in surgical and internal Cases. For this Reason, scarce any thing was more celebrated by the ancient Physicians than Hydromel, or a Mixture of Honey and Water, as being attenuating, aperitive, purgative, and stimulating, yet without Heat. Our Honey-water, however, distilled in a Balneum Mariæ, receives a certain Virtue from the Spirits of the Flowers lodged in the Honey; and thence is accounted extremely useful in the way of Collyrium, and Fomentation, applied in Inflammations or Obstructions of the Eyes, as being, in some measure, the Waters of the Flowers which afforded the Honey. Our present Process, likewise, holds in certain flesh-expressed and inspissated Juices of Plants, as of Manna, the Pulp of Cassia, Sugar, and Tamarinds; which, also, when mix'd with Water, and treated in the same manner, afford no vinous Spirit. The same holds of other thinner Juices, as those of Berries, Summer-fruits, the Birch, the Vine, and the like; which, also, upon Distillation, afford no inflammable Spirit; so that the Process is universal.

Honey diluted with Water, and fermented.

Dilute Honey with such a Proportion of Rain-water, that the Solution may support a new-laid Egg on its Surface, this is called Hydromel. Fill an upright Cask with it, so as to leave the Tap-hole, which is now at the Top, open: Place the Cask so as to keep it constantly heated to seventy Degrees. The Liquor will soon begin to ferment, with all the Signs of Fermentation: Let it continue thus, till the Operation be entirely over, when the Liquor will have a sweet spirituous Taste, and is to be kept in a close Vessel, under the Title of *Mead*, or *Meibeglin*.

Mead, prepared by Fermentation, according to the last Process, affords an inflammable Spirit, and a Vinegar, by Distillation.

Pour a Pint of boiling Water into the Still; light up the Fire; that the Water may continue strongly boiling; then pour in Mead that has been long kept in a close Vessel, leaving a third Part of the Still empty; the Fire is now to be increas'd, and the Matter kept frequently stirring with a Stick, to continue the Mass well mixed. When almost ready to boil, clap on the Still-head, and carefully regulate the Fire so that the Head may grow thoroughly hot, and the Spirit may distil sufficiently quick through the Worm. Thus an excellent vinous Spirit will come over, not to be distinguished from that of real Wine; and the Time it continues to run must be observed, that this Spirit be kept separate. When it is all come off, if the Receiver be changed, another watry, white, ungrateful, Liquor will follow.

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This Process affords an Example of the Distillation of Spirits from a fermented Liquor, together with the proper Caution required. The Remainder of the Mead, after the Spirit is drawn off, still contains something nourishment; and the Case is the same in Beer. But if this Matter be artificially treated according to the Process of Fermentation, (see *ALCOHOL*)

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It cannot be made to ferment again, but it will grow sour and vapid, without turning vinous, so as to afford fresh Spirits; and thus it gradually corrupts more and more.

PROCESSES ON HONEY, FROM WILSON.

TINCTURE OF HONEY.

Take a Pound of pure Virgin-honey; despume it in a clean Earthen Pan, and put to it three Ounces of pure Salt of Tartar (or any other fixed Salt), finely pulveriz'd: Stir them well together, and an Ebullition will arise; stay till it is over, and take off the Scum, and put the Mixture into a Cucurbit uncut, and pour upon it one Pound and an half of tartarized Spirit of Wine: Close the Mouth, and set it in a Heat of Digestion forty-eight Hours. Agitate the Matter three or four times a Day, and in that time the Spirit of Wine will have charged itself with the purest Part of the Honey. Decant it from the Fæces into a new Cucurbit, lute on the Head and Receiver, and draw off one half of the Spirit of Wine in a gentle Heat. That which remains, will be a sweet thick Tincture, being an excellent pectoral Medicine.

Its Dose is from forty Drops, to two Drams.

SWEET HONEY WATER.

Take of good French Brandy, one Gallon; the best Virgin Honey, and Coriander-seeds, each one Pound; Cloves, one Ounce and an half; Nutmegs, one Ounce; Benjamin and Storax, each an Ounce; Benilloes, Number four; the yellow Rind of three large Lemons. Bruise the Cloves, Nutmegs, Coriander-seeds, and Benjamin; cut the Benilloes in small Pieces: Put all into a Cucurbit, and pour the Brandy to them; and after they have digested forty-eight Hours, distil off the Spirit in *Balneo Mariæ*.

To one Gallon of this Water add, of Damask-rose, and Orange Flower-water, each one Pound and an half; of China Musk and Ambergrise, each five Grains: First grind well the Musk and Ambergrise, with some of the Water, and afterwards put all together into a large Matrafs; shake them well, and let them circulate three Days and Nights in a gentle Heat. Then let all cool; filtre, and keep the Water in a Pail well stopp'd for Use.

This Water I often made for King James II. It is an Antiparalytic, smooths the Skin, and gives one of the most agreeable Scents that can be smelt. Forty or fifty Drops, put into a Pint of clean Water, are enough to wash the Hands or Face with; and the same Proportion to Punch, or any Cordial Water, gives a most pleasant Flavour. *Wilson*.

It is remarkable, that Honey was used by the Antients, in the Composition of their Antidotes and Theriacs, as in Mithridate, the *Theriaca* of *Andromachus*, commonly call'd *Venice Treacle*; and *Fracastorius* has follow'd their Example, in the Composition of his Confection, call'd *Diastordium*. Now, Honey I apprehend to be a very proper Ingredient in such Compositions: For it opens the other Ingredients by fermenting; extracts, and, in some degree, alters their Virtues, and unites them in one common Efficacy. Besides, Opium, and other Narcotics, which are frequently directed in the Antidotes of the Antients, are corrected by Honey; agreeable to which, is the Remark of *Dioscorides*, that Honey relieves the Disorders excited by taking the Juice of the Poppy. When, therefore, we make any of these Antidotes with *Diastordium*, a Medicine results from the Composition, of Virtues very different from those of one which is made with Honey. And this deserves the serious Consideration of Physicians who prescribe *Diastordium*, or any of the other Antidotes made with *Diastordium*.

With respect to Honey, one farther Remark is to be made, which is, that there is a Peculiarity in some Constitutions, which renders them incapable of bearing the least Quantity of Honey, without excessive Gripes, Vomitings, and Uneasiness. And in others, it operates as a Poison; an Instance of which we find in the *Philosophical Transactions*, as follows.

One Mr. Morley, of Bury St. Edmunds, in an asthmatic Distemper, was advised by some to take a Spoonful of good English Honey; which being done, the Patient fell into an universal Swelling, as if he had swallowed the worst of Poisons. Mr. Goodrick (who is my Author) prescribed a common Sudorific, which, in competent time, relieved him; and that they might be assured there was nothing amiss in the Honey, they afterwards got the like Quantity at another Place, which was given with the very same frightful Event, and the Party was cured with the same kind of Sweat.

The like Example has been more than once related to me by a noble Lady in Ireland, who having received a small Hurt on her Leg, and the Surgeon (unknown to her) mingling, in the Application to be made to it, a little Honey, (for which she had an utter Aversion) the Place affected soon after rankled and grew so bad, that the Lady was constrained to send for him,

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who had apply'd it, who, being acquainted with her Antipathy to Honey, immediately removed that Plaster, and apply'd another with good Success. *Philos. Trans.*

I don't know, that Physicians have ever directed any Remedy for Disorders excited by Honey; but I must relate what has more than once happen'd to myself, when I was rendered very uneasy, and affected with severe Gripes, and a Diarrhœa, by too plentiful an Use of Honey. On these Occasions I was very much inclin'd by my Appetite to eat Salt-meats, and indulged myself with Lean Bacon broiled, from which I found considerable Relief. What renders this Observation, which has a very riling Air, of more Importance, is, that I find *Dioscorides*, *Actius*, *Ortalius*, *Fan'us Aegineta*, and *Altharius*, all recommend salt Aliments (*ταρλιδες*) as a Cure for Disorders excited by the Use of the poisonous Hellebore Honey mentioned under the Article *ÆCOLETHRON*. I should imagine, also, that copious Draughts of Chicken water, made so as only just to taste of the Chicken, as directed by *Sydenham* for the Cure of a *Colera*, would have a very good Effect in Gripes arising from the Use of Honey, especially if, at the same time, Clysters of the same were injected.

I shall end this Dissertation on Honey, with the Character *Quincy* gives of it as a Medicine; his remarking, that it is a popular Remedy for the Stone and Gravel, and that not a bad one.

The medicinal Virtues of Honey says *Quincy*, are many and great, in'omuch that there is no Author, from the most ancient Times, but makes mention of them, especially from the divine *Hippocrates*, down to this Age. It is very penetrating and deteiging, and is, therefore, good in all Obstructions, especially from viscid and tough Humours. In Inflammations and Stufing of the Breast, it is of great Efficacy, and wonderfully promotes Expectoration. In short, there is no Disorder from Phlegm, or any thing which is the Produce of a cold Constitution, in which it is not serviceable. But in thin and hot Habits, it is not good. It was antiently used as Sugar is now; and great Pity it is, that it is not at present more used. It does great Service to such as are troubled in a Morning with thick tough Phlegm, with which they cannot be easy, until it is hawk'd up, though it gives much Difficulty and Straining to do it. For this Purpose, it is very conveniently eat over Night upon a Toast, or dissolved in any warm Liquor. Some affirm, it will destroy Worms, drank in Milk. It has been much used in Surgery to cleanse foul Ulcers, either by immediate Application, or washing them with Liquors, in which it had been dissolved.

MEL ÆGYPTIACUM. See ÆGYPTIACUM UNGUENTUM.

MEL ANTHOSATUM. Honey of Rosemary.

Take of Rosemary-flowers fresh-gathered, a Pound; of clarified Honey, three Pounds: Mix them together in a Pot, and keep for Use.

MEL ELATINES. Honey of Paul's Betony.

Take of the clarified Juice of Paul's Betony, and of clarified Honey, each four Pounds; and boil to a due Consistence.

This was never directed before the last College Dispensatory, either by the College, or in any other Dispensatories, that I have met with.

MEL HELLEBORATUM. Honey of white Hellebore.

Take of the Roots of white Hellebore, dry'd, and cut into Slices, one Pound; of common clear Water, fourteen Pounds: Let them infuse together for the Space of three Days; and then leisurely evaporate to the Consumption of half the Quantity of Liquor; and boil up, when strained, by strong Expression, to the Consistence of Honey, with three Pounds of the finest white Honey.

MEL MERCURIALE. See BONUS HENRICUS.

MEL MORORUM. Honey of Mulberries.

Take of the Juice of Mulberries, both of the Tree and Shrub; gathered unripe, and before Sun-rise, and depurated by settling, each one Pound and an half; Honey, strained and despumated, two Pounds: Let them simmer together in a gentle Heat, to a due Consistence.

MEL ROSATUM. Honey of Roses.

This is made from one Pound of the Juice or Infusion of red Roses, and two Pounds and an half of Honey, boiled together into a Consistence.

MEL SAPONIS. Honey of Soap.

Take of common Soap and Honey, each four Ounces; Salt of Tartar, half an Ounce; Furnitory-water, two Drams: Mix them together.

This stands recommended as a good thing to scour and whiten the Skin; but it may, also, be put to a much more important Use, and will frequently do great Service in the Gout, and rheumatic Pains,

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Pains, if it be well rubbed into the Part affected; but it is so penetrating, as sometimes to raise a Blister, and at first may enrage the Pain.

For these Purposes, great Improvements may be made, with the Addition of due Quantities of Camphire and Opium.

MEL VIOLACEUM, Honey of Violets,

Is made altogether as the Honey of Roses; but it is little used, and therefore seldom kept in Readiness in the Shops. The Honey of Roses is frequently prescribed in Gargarisms, and, in many Intentions, as a cooling Detergent.

MELAMPODIUM. Black Hellebore, thus called from *Melampus*, the first Discoverer of its Virtues.

MELAMPYRUM.

The Characters are;

The Leaves are conjugated; the Flower is monopetalous, personated and bilabiated, the upper Lip being galeated, and the lower entire. The Fruit is round, bicapsular, and full of Seeds resembling Grains of Wheat.

Boerhaave mentions two Sorts of this Plant; which are,

1. *Melampyrum*; *coniâ purpurascens*. *C. B. P.* 234. *Raii Synop.* 3. 286. *Boerb Ind. A.* 236. *Tourn. Inst.* 173. *Triticum vaccinium*. *Offic. Melampyrum multis, sive Triticum vaccinium.* *J. B.* 3. 439. *Raii Hist.* 1. 774. *Melampyrum purpureum.* *Ger. Emac.* 96. *Cratægonum flore vario.* *Park. Theat.* 1326. **COW-WHEAT.**

It is called Cow-wheat, because it is grateful Fodder to Black Cattle; it is commonly found among the Corn in foreign Countries, but is not, as far as I can find, of *English* Growth. *Melampyrum*, says *J. Bauhine*, has hitherto been of no Use in Medicine, but has lain neglected. *Clusius* writes that in those Parts of *West Friesland* and *Flanders*, where it is very plentiful, it vitiates the Bread, and makes it black; and that those who feed on it are molested with a Stuffing or Heaviness of the Head, as if they had eaten Darnel. He has often, he says, observ'd Bread discolour'd with this Grain, but never found it ill-tasted, nor esteemed the more unwholesome by the Country-people, who do not trouble themselves to separate it; and *Tavernemontanus* assures us, that he often eat of this sort of Bread, and that he found it very savoury, and not at all hurtful. *Raii Hist. Plant.*

2. *Melampyrum*; *luteum*; *latifolium*. *C. B. P.* 234. *Boerb Ind. A.* 236. *Tourn. Inst.* 173. *Cratægonum*. *Offic. Cratægonum album.* *Ger.* 84. *Emac.* 91. *Cratægonum vulgare.* *Park. Theat.* 1326. *Melampyrum sylvaticum flore luteo, sive Satureia lutea sylvestris.* *J. B.* 3. 441. *Raii Hist.* 1. 775. *Synop.* 3. 286. **WILD COW-WHEAT.**

It grows in Woods, and Places adjacent, Thickets, Hedges, and shady Places, about the Roots of Oaks, and other old Trees, in almost every Country of *Europe*.

It flowers in *June* and *July*, and the Seed is in Use, which, as *Dioscorides* says, stimulates to Venery.

The Name *Melampyrum* is compounded of *μέλας*, (*Melas*) black, and *πυρός*, (*Pyrus*) Wheat, because it must resemble Wheat, and is, also, an elevent Grain: It is said by many, that, if mixed with Wheat, it affects the Head; but this, again, is contradicted by many others. *Hist. Plant. ascript. Boerhaav.*

MELANAGOGA, *μελανάγωγα*. Medicines which purge off black Bile.

MELANCHOROS, *μελαγχλωρος*. An Epithet for certain Troches, describ'd by *Paulus Ægineta*, *L.* 7. *C.* 12. And likewise of a Phyller describ'd by the same Author, *L.* 7. *C.* 17.

MELANCHOLIA. See **MANIA**.

Erratic Melancholy is that Species of the Disorder, which most generally seizes Patients in the Month of *February*. It is so called, because those who labour under it, cannot remain for an Hour in one Place, but continually wander about, without knowing where they go. It is by the *Arabians* call'd *Kutubuth*, from an Animal, which, as they inform us, perpetually moves up and down on the Surface of stagnant Waters.

Under erratic Melancholy, the Patients, as we have already observ'd, are in continual Motion, shun Company, love solitary Places, and know not whither they wander. The Colour of the Body is yellowish; the Tongue dry, like that of a Person scorched with Thirst; the Eyes dry, hollow, and never discharging any Tears; the whole Body dry and parched; and the Countenance overcast with Gloom, Horror, and Sadness. Such melancholy Patients are more timorous than others; for which Reason they love Solitude, wander in the Night, and seek for Concealment about the Sepulchres of the Dead, and other solitary Places. They endeavour not to meet human Creatures, and, if they should unexpectedly do so, they do not look at them, nor see them; which is undoubtedly owing to their unaccountable Dread and Fear, in consequence of which they suspect and shun every thing; or because they do not advert to external Objects, since their Fancies are always employ'd, and their Thoughts continually dwelling on the Representations of their Fancies. They seek after solitary Places, that they may not be disturb'd in those Speculations, on which their exorbitant Fancies brood; just as

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the Studious in their Senses shun Company, and all those other Objects, which are capable of drawing their Minds off their favourite Subject. Their Legs are generally full of Ulcers, which cannot be consolidated, since by the continual Motion the peccant Humour is solicited to the Legs.

The Cure is almost the same with that of common Melancholy, since it proceeds from the same Cause, and only differs in Degree, and the Commixture of the Humours. For this Reason, the melancholic Humour, which affects the Spirits in the Head, and disposes the Brain to the Generation of the like Spirits, is to be corrected and evacuated. Then the Head is to be corroborated, and its Intemperature reduc'd to a due State, by moistening and moderately heating, or rather temperate Cephalics. In this Disease copious Venesection is useful, either at one Time, or repeated Intervals, as the Condition of the Patient requires. But, above all Things, Sleep is to be carefully procur'd, since nothing contributes more to the Removal of this Disorder. Purgative Medicines are, also, to be frequently repeated. Some Physicians, when other Measures prove ineffectual, order the Patients to be lash'd, till they forsake their wild Fancies, resume their Reason, and become obedient. But I doubt whether this Practice is safe, since the Dread with which this Species of Melancholy is attended, may by this means be increas'd, and the Patient more expos'd to Danger.

The opposite of this erratic Melancholy is the apoplectic Melancholy; for as in the former the Patients are restless and wander about from one Place to another, so in the latter every Circumstance is revers'd; for the Patients appear stupid, and, being apparently destitute of a Locomotive Faculty, seem to be fix'd to a particular Place. When they lie, they care not for erecting themselves; when they sit, they care not for rising; and when they stand, they will not walk, except forc'd to it by their Friends, or the By-standers. They do not shun Men; but, tho' they seem attentive to what is said to them, yet they make no Answer to it; and, being pensive, and wrapt up in the Contemplation of other Things, they do not attend to the Objects of Sight and Touch. They sleep and watch by Intervals, eat their Aliments when held to their Mouths, drink like other People, and in these and the like Things are pretty tractable, and easily manag'd.

Tho' this Disorder is pretty rare, yet *Jacobus Janus* furnishes us with a remarkable Instance of it in a Clergyman of about thirty Years of Age, who, having a larger Fund of Superstition than Sense, falsely imagined that Almighty God could never be reconcil'd to him, on account of the trifling Miscarriages of his Youth; for which Reason, he thought himself unworthy of the Sacred Function he bore. In consequence of this foolish Notion he labour'd so much under the fatal Influences of Despair for a whole Spring and Summer, that he frequently attempted to lay violent Hands, both on himself, and on his Wife, at which times he seem'd to act in consequence of a certain Paroxysm. But in the Autumn, the Violence of his Disorder being allay'd, he remain'd preternaturally melancholy, and could not be induc'd to speak, tho' he utter'd frequent and deep Sighs. Tho' he seem'd cheerfully to listen to the consolatory Discourses of his Friends and Acquaintances, endeavouring to remove his Grief, and sooth his anxious Thoughts; yet he could never be prevail'd upon to make any Answers to their Questions; tho' he was frequently heard to invoke God in a manner which testified Despair and Horror. For some Weeks after not a Word could be extorted from him; tho' he was often solicited to speak. He slept well in the Night; and in the Morning, when he wak'd, appear'd pensive, and, as it were, immoveable in his Bed. When rais'd out of Bed, and his Clothes put on, he stood like a Statue, only with this Difference, that he put his Hand to his Head and Temples spontaneously. He fetch'd deep Sighs, as melancholy People do; when push'd forwards, and led by the Hand, he walk'd; when brought to a Chair, or Seat, he sat down; when forc'd to sit at Table, he took the Aliments given him by his Wife, and drank as other Persons do, when advis'd to it. His Disorder lasted during the whole Autumn, but began to be diminish'd about the middle of the Winter; so that at last he became capable of exercising his Function; tho' he remain'd dejected for a long time, because he was naturally of a melancholic Habit.

The diagnostic Signs of this Disorder are sufficiently obvious from what has been said. There is a great Difference between a Catoche, and apoplectic Melancholy; since the former generally seizes the Patient suddenly, whilst the latter invades slowly. In the former, the Patient is depriv'd of Sensation and Motion; whereas, in apoplectic Melancholy, both these are retain'd, tho' the Patient cannot use his Senses so quickly as sound Persons do; because their Fancy, being employ'd on certain Objects, cannot advert to others. In a Catoche, the Patients sometimes neither see, hear, nor feel; whereas in apoplectic Melancholy they do all these, tho' they do not testify in Words, that they do so. In a Catoche, the Patients generally have their Members retain'd in the State and Position they are plac'd by the By-standers; whereas, in apoplectic Melancholy, the Patient is capable of moving his Members. Those, also, who labour under a Catoche, have

have their Eyes open, and cannot speak, which Symptom is not observ'd in apoplectic Melancholy. *Sennert. Oper. Lib. 1. Part 2. Cap. 14.*

MELANDERINOS, μελανδρινος. The Name of a Sea Fish, like the MELANURUS.

MELANDRYUM. A Name for the *Lychnis*; *Sylvestris*; *qua Beem Album, vulgo.* See BEHEN.

MELANORRIZON. *Brunsfelsius* is guilty of an Error, in saying that *Dioscorides* calls by this Name the black Hellebore; I suppose he means *Polyrrhizon*, for *Melanorrhizon*, μελανόρριζον, which is one of the Names of black Hellebore, in *Dioscorides*, L. 4. C. 151. *Gorræus*, and from him *Castellus*, have both run into the same Mistake, probably after the Example of *Brunsfelsius*. *Galen*, in his *Exegesis*, explains μέλαινα ρίζα, the Root of the aromatic *Aspalathus*.

MELANPSITHIA, μελαμψίθια. Certain black Wines are thus call'd by *Dioscorides*, L. 5. C. 9. It is deriv'd from μέλας, black, and ψιθία, Joy, Pleasure, or Exhilaration.

MELANTERIA, μελαντηρία. See CHALCITIS.

MELANTHELEUM, μελανθέλαιον. Oil of *Melanthium*, mention'd by *Dioscorides*, L. 1. C. 46.

MELANTHIUM. See NIGELLA.

MELANURUS. *Offic. Aldrov. de Pisc. 62. Rondel. 1. 126. Raii Ichth. 310. Ejsd. Synop. Pisc. 131. Bellon. de Aquat. 269. Gesn. de Aquat. 542. Salv. de Aquat. 181. Charlt. Pisc. 15. Jonf. de Pisc. 31. THE BLACK-TAIL.*

It is a Fish taken in the *Mediterranean Sea*. Being eaten broil'd, it sharpens the Sight, and the Broth thereof cures the Colic, as we are assur'd by *Kyranides*. *Dale.*

MELANZANA. A Name for the *Melongena*; *fructu oblongo violaceo.*

MELAONES, or MELONES. Black Worms found in Meadows in the Month of *May*, which, when bruis'd, emit an agreeable Smell. Certain yellow Beetles are, also, thus call'd.

MELAPHRODITOS *Herba. Aetius, Tetrabib. 4. Serm. 1. C. 21.* recommends this as effectual in curing the Bite of a Viper; but I cannot find what Plant he means, neither do I know, that it is mention'd by any Botanic Author.

MELAS, μέλας, black, is an Epithet apply'd by antient Authors in Medicine in a peculiar Sense to the Colour, or Skin, and, also, to some particular Remedies. In Conformity hereto, in the first Place, a Person who has a black or sable Colour preternaturally diffus'd over his Skin, as in the black Jaundice, is call'd

MELANCHRUS, μελάχρυσ, or MELANCHROS, μελάχρως, (from μέλας, black, and χρῆς, the Skin) *6 Epid. Sect. 2. Aph. 27.* In this Passage some Copies for μελάχρως read μελάχχλωρως, (*melanchlorus*) which is Black inclining to Green, yellowish, or a pale-dark Colour [see CHLOROS]; and is the Word us'd by *Arctæus*, in his Description of Melancholy, or black Bile.

MELAINA, μέλαινα, is sometimes us'd by *Hippocrates* simply to signify the same as μέλαινα χολή, (*melaina chole*) black Bile; particularly *Lib. de Nat. Hom.* and in the Passage, *Lib. 29. de Morbis*, μέλαιναν ἐμέει διον τρύφα, "He vomits black Bile, resembling Fæces." To this Passage *Galen* seems to have an Eye in his *Exegesis*, where he says, μέλαινα, λέγεται τε καὶ ἡ νόσος ἀπὸ μελαίνης χολῆς συνιστάμενη "Melaina the Disease, the Matter of which consists of black Bile, is so called."

MELAINA NUSOS, μέλαινα νόσος, the black Disease. There are two Diseases to which *Hippocrates* applies the Epithet μέλαινα, black, by way of Distinction; and both are described by him at the End of his second Book of Diseases.

In the first the Patient, he says, vomits black Bile, like Fæces, sometimes bloody, and sometimes resembling secondary Wine, at other times like the Ink, or black Juice, of the Polypus, or Cuttlefish, and sometimes sour as Vinegar; sometimes he throws up a thin sort of Phlegm and Saliva, and sometimes a greenish kind of Bile [χολὴν χλωρὰν]. When the Matter ejected by Vomit is like black Blood, it seems to smell of the Slaughter-house; the Mouth and Fauces are inflamed with Vomiting, the Teeth are set on Edge, and what is vomited ferments on the Ground. After Vomiting, the Patient finds himself somewhat relieved; he can neither bear Fasting, nor dares to eat freely; for, in the first Case, he is molested with a Rumbling of the Viscera, and a Sourness of the Saliva; and, after Eating, he feels a Weight and Oppression on the Viscera, with a pungent Pain of the Breast and Back, as if inflicted by Pins thrust therein; there is, also, a Pain in the Side, with a slow Fever, Head-ach, a Dimness of Sight, an Heaviness of the Legs, and a Blackness of the Skin.

The second black Disease (μέλαινα νόσος) is attended with the following Symptoms: The Patient is extenuated, and becomes of a dark-red Colour, [κόκκινος] and his Eyes of a palish Green [πράσινος]; his Skin is thin, and his Body weak, and the longer the Disease continues, the more formidable it grows: He vomits at all Seasons, discharging a thin Matter, as it were by Distillation, to the Quantity, perhaps, of two Brochthi. [See BROCHTHIUS]. He frequently vomits up his Food, together with Bile and Phlegm; after which a Pain extends itself over

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all his Body; and sometimes, before he vomits, he is molested with a slight Shivering, and a Fever; and he is most subject to vomit, after taking sweet and oily Things. See MORBUS NIGER.

MELAN PHARMACON, μέλαν φάρμακον, the black Medicine, seems to be Ink; or to signify what in *Hippocrates* is, also, called μέλαν γραφικόν, *Atramentum Scriptorium*, Ink to write with; for so *Celsus* and *Paulus* seem to have understood it. The Place where the Words occur, in *Lib. de Cap. Vuln.* where, in exploring the Fissure of the Cranium, he says, δὲ δὴ δὴ τὸ ὅσον τήκεν τὸ μελάνιστον, δειῦτάς τε τῷ μέλανι φαρμάκῳ τῷ τηκνύμενῳ. "We ought to pour over the Bone some very black Substance, macerated in a Solution of the black Medicine." The Sense of this Place seems to be expressed by *Celsus*, *Lib. 4. Cap. 8.* in the following Words, *At si ne tum quidem rimia manifesta est, inducendum super os atramentum scriptorium est, deinde scalprio id radendum*: "If neither then the Fissure appears, you are to cover the Bone with Ink, and then apply the Lenticular." And *Paulus*, *Lib. 6. Cap. 90.* says, we are to pour on the Bone some liquid black Medicine, or Ink which we write with. But whether it be writing Ink, or some other black Medicine, which *Hippocrates*, in the Place before quoted, directs to be poured upon the Bone, it is certain, that *Galen* had an Eye to that Passage in his *Exegesis*, when he expounds μέλαν φάρμακον by these Words, τῷτο πῶς σκιδάζει, ἐν τῷ περὶ ἐλκῶν αὐτὸς ἐδίδασκεν. "How this (black Drug or Medicine) is prepared, he himself has taught us in his Book of Ulcers." Hence we may infer, that by these Words is meant some Medicine, whose Composition is uncertain, since we meet with nothing explicitly relating thereto in that Treatise; and, therefore, either this Book Of Ulcers is imperfect, or we take this black Medicine for some other Composition among those there described, and not for *Atramentum Scriptorium*, which is no-where mentioned in that Book. The fore-mentioned Passage, *Lib. de Cap. Vuln.* is indeed sufficiently corrupt; we may, however, collect from it, that by μέλαν φάρμακον, *Hippocrates* means some black liquid Medicine, which is to be poured upon the Bone, in order to find out how deep the Fissure had penetrated; and whether this be Caricon, described in the Book Of Ulcers, or some other Composition there described, or writing Ink, it is a Matter of small Importance. In the spurious Additions to the first Book of *Hippocrates*, de Morb. Mulier. there is a black Medicine, μέλαν φάρμακον, directed to be prepar'd of the Squama, and Flos Aëris, first pounded separately, and afterwards mixed.

MELASMA, μέλασμα. A Sugillation, or Bruise, which turns black, is thus called.

MELCA, μέλκα, according to *Galen*, is a Roman Word, and signified a laudable sort of Food, of a refrigerating and moistening Quality, in Use among the Romans: It seems to be a sort of Oxygala, as we may infer from *Galen*, *Lib. 7. M. M.* and *Paulus*, *Lib. 1. Cap. 37.* where he directs those who, from an hot Distemperature, labour under an Aversion to Food, to use a refrigerating Diet; and, among other Aliments of that Quality, he advises eating of Melca, which, he says, is prepared of Milk. This is confirmed by *Constantine*, *Lib. 18. de Agricultura*, who assures us, that Melca was nothing but Milk reposit in a new earthen Pot, first well season'd with boiling-hot Vinegar, by which means there was a Secretion of the thicker Substance of the Milk from the Whey: From whence it appears, as we said before, to be a kind of Oxygala. *Gorræus.*

MELLE, μέλι. A Probe.

MELEAGRIS. *Offic. Bellon. des Oyse. 249. Gallo-pavo. Aldrov. Ornith. 2. 35. Gesn. de Avib. 426. Charlt. Exer. 81. Jonf. de Avib. 39. Mer. Pin. 172. Schw. A. 279. Gallo-pavo sive Meleagris & Numidica avis. Raii Ornith. 169. Ejsd. Synop. A. 51. Will. Ornith. 113. Gallus Indicus quibusdam.* THE TURKEY.

The Flesh is esteemed analeptic, or restorative, and stimulative to Veneri. The Food of Turkeys is principally of Vegetable Substances, and the habitual Exercise not very great; hence their Salts are not very much exalted: They are esteemed to be of easy Digestion, especially when young.

MELECH. Salt. *Rulandus.*

MELEGUETTA. A Name for the greater Cardamoms. See CARDAMOMUM MAXIMUM. *Clusius* mentions a spurious Sort of Meleguetta.

MELIOS, μέλιος. An Epithet for that Species of Alum, which is produced in the Island *Melos*.

MELEUKEN. The Name of an Indian Fruit, like the Pine-nut. *Raii Hist. Plant.*

MELI, μέλι. Honey. See MEL.

MELIA TERRA. See CRETA.

MELIANTHUS.

The Characters are;

Its Root is perennial, and it has the Appearance of a Shrub; the Leaves are like those of Burnet, and the Calyx multiseid: The Flower is tetrapetalous and anomalous; some of the Petals resembling a Fan, and others a Cone: The Fruit is like a Bladder, tetragonal, or four-corner'd, quadricapsular, and full of roundish Seeds.

M E L

Boerhaave mentions two Species of this Plant; which are;
1. *Melanthus*; Africanus. *H. L.* 414. *Pimpinella, spicata, maxima, Africana.* *Aët. Hafn.* 2. 58.

2. *Melanthus*; Africanus; minor; scetidus. *Commelin. Rar.* 4. *Boerb. Ind. alt. Plant.*

It is called *Melanthum*, or *Melanthus*, from μέλι, Honey, and ἄνθος, a Flower, that is to say, Honey-flower; because in *Africa* its Flower transudes Honey.

The Inhabitants of *Africa*, when exhausted with Heat and Thirst, crop the Flowers, and sup the Liqueur: This Liqueur is much in Use among the *Hottentots*, to strengthen and refresh the Spirits; for which Purpose it is very effectual. *Hist. Plant. adscript. Boerhaav.*

MELIAS. The same as MELEIOS.

MELICA. A Name for the *Milium*; *Arundinaceum*; subrotundo semine; *Sorgho nominatum.*

MELICERIA, μελικηρία. The same as HYDARTHROS.

MELICEROLA. A small Meliceris.

MELICERIS, μελικηρίς. An encysted Tumor, thus called, because it contains a Substance like Honey. See TUMOR.

Sometimes Meliceris imports the same as CERION, or TRAVUS.

MELICHROOS, μελίχροος. Of the Colour of Honey.

MELICHROS, μελίχρος. Sweet like Honey.

MELICRATON, μελικράτον, from μέλι, Honey, and κρᾶννυμι, to mix. Hydromel; Water in which Honey is dissolv'd.

MELIEDES, μελιέδες. An Epithet of Wine, importing a Sweetness and Flavour resembling those of Honey.

MELIGEION. *Blancard* explains this, a fetid oleous Humour, of the Consistence of Honey, discharged from Ulcers, complicated with a Caries of the subjacent Bone.

MELILOTUS.

The Characters are;

The Ovary is a naked Capsule, (not hidden within the Calyx, as in Trefoil) pregnant with one or two roundish Seeds; the Flowers grow in Spikes.

Boerhaave mentions twelve Species of this Plant; which are,

1. *Melilotus*; fruticosa; lutea; vulgaris; vel Officinarium. *Boerb. Ind. A.* 2. 29. *Melilotus.* Offic. *Melilotus vulgaris.* Park. Theat. 719. *Raii Hist.* 1. 951. Synop. 3. 331. *Melilotus Germanica.* Ger. 1034. Emac. 1205. *Melilotus Officinarium Germaniae.* C. B. P. 331. *Tourn. Inst.* 407. *Trifolium odoratum sive Melilotus vulgaris, flore luteo.* J. B. 370. MELILOT.

The ordinary Melilot has a large, woody, spreading, white Root, from which spring many slender-chanel'd smooth Stalks, two or three Feet high, having at every Joint three oblong, round-pointed, green Leaves, set together upon one Foot-stalk, serrated about the Edges, and frequently gnaw'd by Insects. The Flowers grow on long Spikes, being yellow, in Shape of Tare or Pea-blossoms, but much less; to each of which succeeds a small, rough, round Pod. The whole Plant, but especially the Flowers, has a strong pleasant Smell. It grows frequently among the Corn, and in Hedges; and flowers in *June*. The Leaves and Flowers are used.

They are accounted mollifying, discussing, dissolving, and easing Pain; and therefore are frequently ordered in Stuphs and Cataplasms against Inflammations, hard Tumors, and any kind of Swellings. The Melilot-plaster made of this Herb, boiled in Mutton-suet, Rosin, and Wax, is drawing, and good for green Wounds, but is chiefly used in dressing of Blisters.

The only officinal Preparation is the *Emplastrum Meliloti, simplex.* *Miller's Bot. Off.* See EMPLASTRUM.

This Plant gives hardly any Tincture of Red to blue Paper; it is acrid, bitter, styptic, odoriferous, and gives a slight Nausea, when chewed; by which, it seems, its Salt very much resembles the natural Salt in the Earth, united with a great deal of essential Oil, and terrestrial Parts.

For, by the chymical Analysis, the Melilot, beside a great deal of acid Phlegm, yields, also, a good Quantity of Oil of Earth, together with an uninous Spirit, volatile, concrete, and fixed Salt very lixivial.

Therefore this Plant is aperitive, resolvent, and lenifying. The Pisan made of the Tops of it, and Chamomile, is excellent for the Inflammations of the lower Belly, for the Colic, Retention of Urine, Rheumatism, and generally in all Cases where it is necessary to facilitate the Course of the Humours by lenifying. The distilled Water of the Flowers of Melilot has a Smell agreeable enough; but *Casalpini* observes, that it increases and retains that of other aromatic Waters, with which it is mixed; for which Reason it is used in the *Eau de Corduc*. The Melilot is used in the carminative Clysters, lenifying and resolvent Cataplasms. For the Clysters they boil the Flowers of Melilot and Chamomile in Tripe-broth, and add some Drops of Oil of Anis to the Decoction, strained through a Cloth. For the Cataplasms boil two Roots of Lilies, with an Handful of Hemlock and Henbane leaves, and three Pugsils of Melilot-tops; Strain all through a Sieve, and mix with it some Drops of fetid Oil of Tartar. The Juice of Melilot-flowers, or their Infusion, in boiling Water, very much allwages the Inflammation of the Eyes, especially if, after having taken it from the Fire, there be added a

M E L

little camphorated Spirit of Wine, strained through a Linen Cloth, to separate the superfluous Camphire. *Martyn's Tourn.*

For mitigating a Pleurisy, the following Fomentation is approved by Experience:

Take the Herb Melilot, and true Pellitory of the Wall, of each two Handfuls; of Betony, one Handful: Mix them, and boil them in Water, and therewith frequently foment the Breast. *Simon Paulli.*

The Emplastrum de Meliloto, of *Mesue*, is an excellent Anodyne, and discussive not only of Flatulencies, but of cold and gross Matter, in external Tumors, even those of the Liver and Spleen.

Whereas *Dioscorides* says, that Melilot is sweet-scented, he is to be understood of the dry'd Herb, because, when green, it has hardly any Smell at all, but, when dry, is very fragrant, as is observed, also, by *Theophrastus*, *Lib. 6. de Caus. Plant.*

Melilot is called by *Camerarius*, and the *Italians*, *Trifolium Caballinum*, Horse-trefoil, because Horses are very greedy of it; and in *England* it is sometimes sown for the sake of providing Fodder for Horses and Cattle. *Raii H. P.*

It takes the Name *Melilot* from μέλι, Honey, and λωτός, Lotus, a celebrated Plant among the Antients, not from its sweet Taste, for the Leaves, Flowers, and Fruit, are bitter, but because there is no Plant from which the Bees gather sweeter Honey, or more in Quantity.

The Leaves, besides their emollient Quality, are endued with a Virtue of heating in a very gentle manner, by their aromatic Quality; the Flowers are, also, aromatic and emollient, and, therefore, reckoned among internal Pectorals; but they are more used outwardly, as emollient, discutient, and anodyne; on which accounts they are serviceable in all sorts of Inflammations, particularly of the Uterus, Testes, and Anus, as well as in nephritic and arthritic Pains. The Seeds are discutient, aperient, aromatic, and resolvent. Of the Flowers immers'd in Oil is expressed an Oil, to which new Flowers are added, and the same still repeated, till it becomes a Balsam of Melilot, which is an excellent Medicine; for it preserves from Putrefaction, and consolidates in an extraordinary Degree. The Seeds, reduced to a Flower, compose a Plaster, which is highly emollient and resolvent. The Decoction of the Leaves and Flowers taken inwardly is very good to cleanse the Passages obstructed by Cold. A Decoction of the Tops of the Plant is good for Inflammations of the Intestines, the Colic, Retention of Urine, and the Rheumatism; they are prescribed, in Conjunction with Chamomile-flowers, in Cataplasms, Plaisters, and Fomentations. *Hist. Plant. Boerb. adscript.*

2. *Melilotus*; fruticosa; candida; major. *M. H.* 2. 161. *Trifolium odoratum, sive Melilotus vulgaris, flore candido.* J. B. 2. 370.

3. *Melilotus*; lutea; minor; floribus & filiculis, minoribus, spicatis, & dense dispositis. *M. H.* 2. 161.

4. *Melilotus*; lutea; seminis pericarpio, magno, rugoso, rotundo, albo. *M. H.* 2. 161. *Boerb. Ind. A.* 2. 29. *Melilotus vera.* Offic. *Melilotus Italica.* Park. Theat. 719. *Melilotus Italica sive Patavina.* Ger. 1033. Emac. 1204. *Melilotus Italica folliculis rotundis.* C. B. P. 331. *Tourn. Inst.* 407. *Melilotus magno semine rotundo, rugoso.* J. B. 2. 317. *Raii Hist.* 1. 951. ITALIAN MELILOT.

It is a Native of *Italy*, but cultivated with us in Gardens, and flowers in *July*. The Herb and Flowers are used, and agree in Virtues with those of the common Melilot. *Dale.*

5. *Melilotus*; minima; recta; lutea; siliculis crassis, curtis, in capitulum congestis; semine Foenigreci. *M. H.* 2. 162.

6. *Melilotus*; capsulis Reni similibus, in capitulum congestis. *T.* 407. *Trifolium pratense, luteum, capitula breviori.* C. B. P. 328. *Trifolium pratense, luteum, mas, flore minore, semine multo.* J. B. 2. 380.

7. *Melilotus*; major; odorata; violacea. *Tourn. Inst.* 407. *Boerb. Ind. A.* 2. 30. *Lotus urbana, Trifolium odoratum.* Offic. *Lotus hortensis odora.* C. B. P. 331. *Lotus sativa odorata annua.* J. B. 2. 368. *Trifolium odoratum.* Ger. 1025. Emac. 1195. Park. Theat. 715. *Raii Hist.* 1. 950. SWEET TREFOIL.

This Trefoil has large, hollow, chanel'd Stalks, divided into many Branches full of Leaves, three growing together on long Foot-stalks, which are longer and broader than Melilot, indented a little about the Edges. The Flowers grow in short round Spikes, set on very long Stalks, of a pale-blue Colour, being small and papilionaceous, set each in a particular Calyx, and succeeded by short Pods, containing two or three small yellow Seed. The Root is woody and fibrous, perishing after Seed-time. The whole Plant has a very strong Smell, like Fenugreek-seed. It grows with us in Gardens only, and flowers in *June*. The Herb and Seed are used.

This is, by many, accounted a good vulnerary Plant, and preferred to Melilot, to keep down Inflammations in Wounds, to cleanse foul sordid Ulcers, and to dissolve hard Swellings; an Ointment or Plaster being made therewith, as with Melilot. The Seed is diuretic, and reckoned, by *Galen*, to be an Alexipharmic; but it is rarely used. *Miller's Bot. Off.*

M E L

This Species is what is meant in the Shops by the Name of *Lotus*, and *Trifolium odoratum*, without the Addition to this last of *Bituminosum*. Its Virtues are most conspicuous in the Oil, the same Virtues with that of the common Melilot, but in a more celebrated Degree, as it excels the other in Fragrance. *Dale* says, it is alexipharmic, anodyne, diuretic, and vulnerary. *Hist. Plant. Boerb. adscript.*

8. Melilotus; fructu plano, orbiculari, maximo. *Trifolium, peltatum, Creticum*. C. B. P. 329. Prodr. 142. J. B. 2. 381.

9. Melilotus; *Ægyptia*; minima; foliis eleganter incis.

10. Melilotus; *Orientalis*; folliculis rugosis.

11. Melilotus; *supinus*; *Creticus*; *luteus*.

12. Melilotus; *Cretica*; humillima; humifusa; flore albo, magno. T. C. 28. *Spica trifolia*. Prosp. Alp. Exot. 168. *Boerb. Ind. alt. Plant. Vol. 2. p. 29.*

Prosper Alpinus, in his Treatise *de Plantis Exoticis*, Cap. 75. gives a Description and Figure of this Plant, and informs us, it grows in *Crete*; but says, that he does not know of any medicinal Virtues it is possess'd of.

MELILOTUS, QUINTA, TRAGI. A Name for the *Coronilla*; *herbacea*; *flore vario*.

Besides the foregoing Species of Melilot, *Dale* mentions the following;

MELILOTUS ALTISSIMUS. Offic. *Melilotus vulgaris altissima frutescens, flore luteo*. Ind. Med. 75. Tourn. Inst. 407. Herb. Par. 289. WOODY MELILOT.

This Species of Melilot must not be confounded with the common Melilot; for, being cultivated in the *French King's* Royal Garden, it never becomes so tall, nor so ligneous. The Stalks of this are four or five Feet high, firm, hard, chanel'd, branched, set with Leaves an Inch and an half long, seven or eight Lines broad, obtuse and notched; those towards the Top are much narrower, and a great deal more pointed; they are sustained by Threes, by a Pedicle an Inch and an half long. The Flowers are yellow, disposed in a Spike; their Standard is three Lines long; the Wings shorter and narrower, as is, also, the Keel. The Empalement is short, smooth, and divided into five Points; out of its Bottom arises a Pointal, which becomes a little Cod, a Line and an half or two Lines long, almost round, wrinkled, opening into two Parts; containing redish Seed, almost round, and a little flatish. This Plant has less Smell than the common Melilot; it flowers in *July* and *August*; its Seed is ripe in *September*. *Martyn's Tournefort.*

MELIMELUM, μελίμηλον. A sort of sweet Apple, mentioned by *Dioscorides*, L. 1. 161.

MELINUM, μέλινον. A compound aromatic Ointment, impregnated with Quinces, the Preparation of which is describ'd by *Dioscorides*, L. 1. C. 55. *Paulus Ægineta* directs another Method of preparing this Oil, L. 7. C. 20.

MELINUM EMPLASTRUM. *Galen*, in his Treatise *de Comp. Medic. per Genera*, L. 2. C. 6. 7. 8. 9. 10. and 11. describes several Plaisters under this Title, which are so called on account of their Colour. Thus he takes notice of one ascrib'd to *Andromachus*; another to *Menætus*; another to *Serapion*; and another to *Hera*.

MELIPHYLLON. Baum.

MELES, MELIS, MELUS, MELO, or MELOTUS, are different Names for the Badger. See TAXUS.

MELISSA.

The Characters are;

The Calyx is long, tubulous, and quinquefid, the Segments being disposed in such a manner as to make it appear bilabiate. The *Galea* is erect, roundish, and bifid; the Beard tripartite. The Flowers, which are produced from the Wings of the Leaves, are not whorled quite round the Stalk; they are generally six in Number, three on each Side.

Boerhaave mentions seven Species of this Plant; which are,

1. *Melissa*; *hortensis*. C. B. P. 229. Tourn. Inst. 193. *Boerb. Ind. A.* 167. *Melissa*. Offic. Ger. 558. Raii Hist. 1. 570. *Melissa vulgaris*. Park. Theat. 40. *Melissa vulgaris odore Citri*. J. B. 3. 232. *Melissa, Apiastrum*. Chab. 417. BAUM, BAULM, or BALM.

The Roots of Baum are long, slender, and creeping, shooting out, in the Spring, many square Stalks, two or three Feet high, having at every Joint two roundish Leaves, broad at Bottom, and growing narrow towards the Lind, indented about the Edges, and beset with short small Hairs of a pleasant Lemon-scent. It is but thinly set with Flowers, which grow at the Joints with the Leaves, several set together on each Side the Stalks, being of a white Colour, galeated and labiated, set in large Calyces; by the Side of each Cluster of Flowers are set two very small green Leaves. It grows only in Gardens, and flowers in *July*. The whole Herb is used.

Baum is cordial, cephalic, and good for all Disorders of the Head and Nerves; cheers the Heart, and cures the Palpitation thereof; prevents Fainting, Melancholy, hypochondriac and hysteric Disorders; resists Putrefaction, and is of Use in malignant and contagious Distempers. Outwardly applied, it helps the Stinging of Bees and Wasps.

M E L

The only officinal Preparation of Baum is the Simple-water; for the Virtues of which, see AQUA.

Baum is reckoned among Cardiacs, and is much extolled by *Forestus* for the Syncope and Palpitation of the Heart. It is commended by *Rondeletius* for the Palsy, Vertigo, and other cold Affections of the Brain, being boiled or macerated in Wine, and drank. And *Gratarolus* commends it for strengthening the Memory, and sharpening the Wit, in whatever manner it be taken. It is of great Service, also, in a Retention of the Menfes, or Lochia, and in hysteric Disorders; and corrects a fetid Breath.

The good Women in *France* bruise the young Shoots, and make them up with Eggs, Sugar, and Rose-water, into Cakes, which they bake, and give to Women in Labour, or newly delivered, under a great Loss of Strength, or not well cleansed from the Secundines. Outwardly, it is of Use in Baths for the Uterus, and in Cataplasms for the poisonous Stings of Bees, Wasps, and other Insects. *C. Hoffman* advises to gather it for officinal Preparations in the Spring, before the Flowers appear, because, in time of flowering, it smells of Bugs.

For the Mania,

Take of Leaves of Baum, one Handful; cut them, and infuse them in four Ounces of Spirit of Wine: To which add half a Dram of Pearls prepared. The Dose is two Spoonfuls.

This Prescription was a Secret, in the Possession of a certain Family of *Montpelier*. *Riverius*. If you desire, says *Simon Paulus*, a Remedy against Melancholy, I present you with what follows:

Take of Conserve of Baum, one Ounce; of Borrage, and Buglofs, each half an Ounce; Confection of Alkermes, one Dram; with Syrup of the Five opening Roots.

By constant taking of this, after the previous Use of Universals, I remember, he says, a Virgin, who was freed from an obstinate Melancholy, attended with a Chlorosis, and restored to her former Health.

It is usual with our Country-women, says the same Author, to provoke the Menfes with a Decoction of Baum; and I know, says he, one or two, who successfully try the Experiment upon themselves, by only wearing fresh Baum in their Stockings, or Shoes. Many, afflicted with a Trembling of the Heart, and given over by Physicians, have been cured only by Water of Baum, mixed with Manus Christi to a proper Consistence, and exhibited in pretty large Doses, in the Time of the Paroxysm. *Raii Hist. Plant.*

It is called *Melissa*, from μέλι, Honey; because the Bees are very much employ'd in gathering Honey from this Herb. It is, also, called *Melissophyllum*, from μέλι, Honey, and φύλλον, a Leaf: And *Apiastrum*, from *Apis*, a Bee, because the Bees are much delighted with it: And *Citrageo*, from *Citrum*, a Citron; because it has the Smell of a Citron.

This Plant is endowed with extraordinary Virtues; for Pleasantness of Taste and Smell no Herb exceeds it. The Leaves, infused in Wine, impregnate the same with its grateful Scent, and render it an highly useful and comfortable Medicine in all melancholy Affections; for it mightily exhilarates, being very cordial. The expressed Juice has, also, an Astringency, and is good for those who are subject to Melancholy, and hypochondriac Flatulences; and, in such Cases, it is always proper to be exhibited, though attendant on hot Disorders. The Herb, freshly gathered, and infused in half Wine and half Simple-water, cold, or drank after the manner of Tea, affords great Relief to melancholic Patients. If it is infused in *Rhenish* Wine, with an Addition of Honey, it is an excellent Cordial, as I myself have found from Experience. From this Circumstance, Naturally, in their Researches after the Nature of Plants, as, also, *Crollius* and *Paracelsus*, have affirmed, that the Leaf of Baum resembled an human Heart. This Herb is an excellent Remedy for hysteric Women, since it wonderfully exhilarates the Spirits. Women subject to Rumbings of the Intestines, Eructations, and Syncope, are greatly relieved by Baum-leaves, bruised, and held to the Nose, in the Paroxysms of these Disorders. A medicated Wine, prepared of this Herb, is highly beneficial in gouty Rheumatisms, and arthritic Pains, provided it is daily used. By Distillation an Oil is obtained from this Plant, which smells like a Citron. A Decoction of the Leaves corroborates lax Guts. An Infusion of it with Wine, Ale, or Water, contributes greatly to the Cure of that Species of Melancholy, which draws its Origin from a Defect of Spirits. It is commended against Epilepsies, Madnels, Barrenness, Apoplexies, Palsies, Vertigos, and Faintings. It is beneficial in Crudities of the Stomach, Obstructions of the Menfes, and a Retention of the Lochia. It removes the fetid Smell of the Breath, and is serviceable to those who labour under a Retention of Urine. Externally, it is used in Cataplasms, Baths for the Feet, poisonous Stings of Wasps, and

and other Misfortunes of a like Nature. *Hist. Plant. adscript. Boerhaav.*

2. Melissa; minor; & humilior. *Flor.* 2. 76.
3. Melissa; Romana; molliter hirsuta; & graveolens.
4. Melissa; peregrina; caule brevi; plantaginis folio. *T.* 193. *Gallitricium, folio rotundiore, flore magno, violaceo.* J. B. 3. 313.
5. Melissa; humilis; latifolia; maximo flore, purpurascens. *Tourn. Inst.* 193. *Boerb. Ind. A.* 167. *Pseudo-melissa.* *Offic. Melissophyllum Fuchsi.* *Park. Theat.* 40. *Melissa Fuchsi.* *Raii Synop.* 3. 242. *Ger. Emac.* 690. *Melissa adulterina quorundam amplis foliis & floribus non grati odoris.* J. B. 3. 233. *Lamium montanum Melissæ folio.* C. B. P. 331. *Raii Hist.* 1. 561. **BAS-JARD BAUM.**

We must not confound this Plant with that which *Cæsalpinus* has called *Melissa altera*; which is the *Melissa Romana, hirsutior.* *Mor. H. R. Blæf.*

It grows in several Woods in the West of England, as about *Tutness* in *Devonshire*, and *Haverfordwest* in *Pembrokeshire.* *R. Syn. Ed.* 3. 242.

The Crest of this Flower is sometimes entire, and sometimes cut like an Heart. It flowers in *May* and *June.* The Flowers are disposed in a simple Ring; they come but three at most, out of the Bosom of each Leaf, which makes the Number of six at each Ring. These Flowers have each of them a Pedicle, coming immediately out of the Stalk, which is not branched. Out of the Bosoms of the lower Leaves there usually comes but one Flower, out of the middle ones two, and out of the upper ones three. The Empalement consists of two Lips, the upper one of which is a little reflexed, and slightly divided into two little Points, the under one being usually cut into three Segments, and sometimes only into two.

It is excellent for a Suppression of Urine: Put two Pounds of it in an Alembic, with an equal Quantity of *Herniaria*; sprinkle them with Salt, add a little Water, and leave them in Digestion three Days; after which distil them in *Balneo Mariæ*: Cohobate the distilled Water three times upon fresh Herbs, bruised. Keep the last Water in a Bottle, well stopp'd. In a Suppression of Urine give, every four Hours, four Ounces, mix'd with as much White-wine; and anoint the lower Belly, the Perinæum, and Region of the Kidneys, with the following Oil; infuse in the Sun, for three Days, or boil gently in the same Oil, an Handful of Betles, ten Cantharides, and a Scruple of the Seed of Ammi. A Clyster may be given of the Decoction of Mallows, Melissa Tragi, *Herniaria*, and two Drams of Chips of nephritic Wood. *Martyn's Tournefort.*

6. Melissa; humilis; latifolia; maximo flore albo. *T.* 193.
7. Melissa; quæ *Bugula Lusitanica*; odorata. *Corn.* 4. *Bugula odorata, Lusitanica.* M. H. 3. 39. *Clinopodium, Lusitanicum, spicatum & verticillatum.* *T.* 195. *Boerb. Ind. alt. Plant. Vol.* 1. p. 167.

MELISSA is, also, a Name for several Sorts of *MOLDAVICA*; which see.

MELISSA FRUTICOSA. A Name for the *Galeopsis*; *Hispanica*; *frutescens, Teucrii folio.*

MELISSA MOLUCCANA. A Name for the *Molucca*; and for the *Molucca spinosa.*

MELISSOCHORTON, *μελισσόχορτον.* In English, Bees-grass. The Word occurs in *N. Myrpsus, Sect.* 1. *Cap.* 74. and imports the same as MELISSA, Baum.

MELISSOPHYLLON. A Name for the *Melissa*; *humilis*; *latifolia*; *maximo flore purpurascens.*

MELITÆA, or MELITÆA TERRA. Earth of *Malta.* See CRETA.

MELITTEA, *μελιττεά.* The Name of a Powder for external Use, described by *Paulus Aegineta, Lib.* 7. *Cap.* 13. and recommended by the same Author, *Lib.* 4. *Cap.* 40. as a good Application to hollow Ulcers.

MELITISMOS, *μελιτισμός.* A Linctus prepared with Honey.

MELITITES, *μελιτις.* This sometimes signifies Hydromel; but, more frequently, a Sort of Stone; which is the

Lapis Melitites. *Offic. de Laet.* 142. *Calc. Mus.* 276. *Boer.* 416. *Matth.* 1385. *Melitites.* *Aldrov. Mus. Metall.* 668. *Melitites.* *Agricol.* 606. **THE HONEY-STONE.**

This Stone only differs in Colour and Sweetness from the *Lapis Galactites*; and the Effects produced by both are, according to *Dioscorides*, the same. But, according to *Galen*, it is somewhat more hot and abstergent than the *Galactites.* *Agricola*, in *Lib. de Nat. Fossil.* affirms, that the *Galactites* and *Melitites* are produced in the same Lime-stone Rock. *Wormius* distinguishes between the *Moroethus*, the *Galactites*, and the *Melitites*, in the following manner: The *Moroethus* yields a milky Juice, which is destitute of the Sweetness of Honey, and is neither of a white nor cineritious Colour; but the *Galactites* is of a white or cineritious Colour, and yields a milky Juice, without any Taste of Honey; whereas the *Melitites* is of various Colours, and yields a milky Juice, as sweet as Honey. But *Jo. de Laet*, in his Book *de Gemmis & Lapidibus*, distinguishes between these three Stones in the following manner: That which is of a cineritious or black Colour is the *Galactites*; that which is yellow,

and in Colour resembling Honey, is justly called the *Melitites*; whereas that which is greenish is the *Moroethus*, which shines like a Gem more than any of the others. *Dale.*

MELITTOMA, *μελιττωμα.* A Confection, or Sweetmeat, prepared with Honey. Some Authors, by Mistake, write it *Melitema.*

MELITZANIUM. This Word occurs several times in *N. Myrpsus*; but his Commentators are not certain what he means. *Fuchsius* guesses it to be the *Melanthium sylvestre.*

MELLAGO. Any Medicine, which has the Consistence and Sweetness of Honey, is thus called.

MELLIFAVIUM. The same as MELICERIS.

MELLISODIUM. Burnt Lead. *Rulandus.*

MELOSI. Earth-worms. *Johnson.*

MELO.

The Characters are;

All the Species produce an oval, smooth, chanel'd Fruit, divided into three Capsules, which are cut into two Parts, and full of oblong Seeds.

Boerhaave mentions seven Species of this Plant; which are,

1. Melo vulgaris. C. B. P. 310. *Tourn. Inst.* 104. *Boerb. Ind. A.* 2. 77. *Melo.* *Offic. Ger.* 771. *Emac.* 917. *Raii Hist.* 1. 644. *Park. Parad.* 525. *Melones.* J. B. 2. 242. **MUSK-MELON.**

The Vine, as it is usually called by Gardeners, which bears this Fruit, has long trailing Stalks, furnished with several Tendrils or Claspers, and is rough and hairy, as well as the Leaves, which are somewhat like Cucumber-leaves, but rounder. The Flowers are yellow, of the same Shape, but larger than those of the Cucumbers; and are succeeded by pretty large oval Fruit, sometimes, as it were, divided into several Parts by deep Furrows, running lengthways, and other times having the Outside covered with a raised Net-work. Its Inside is of a redish Colour when ripe, of a very pleasant Scent, and of a sweeter Taste than the Cucumber, having a great Quantity of flat oblong Seed included in a moist watery Pulp. Melons are sown yearly in the Spring, and are ripe in *July* and *August.*

The Seed only is used in Physic, and is one of the Greater cold Seeds, and a common Ingredient in Emulsions, being cooling and useful in Fevers and other inflammatory Distempers. It helps the Stone, Strangury, and Heat of Urine. The Flesh of the Melon is pleasant and grateful to the Stomach, but must be eaten with Caution, being liable to surfeit, and bring on the Colic, and Cholera Morbus. *Miller's Bot. Off.*

There is a great Variety in this Fruit, not only with respect to the Colour of the Rind and Pulp, the Taste and Smell, but, also, in its oblong Figure, Sextile Disposition, and other Accidents; for *Bauhine* mentions a *Melo reticulatus*, that is, a Melon cover'd with a Rind like raised Network; a *Melo turbinatus*, a turbinated Melon; a *Melo magnus, cortice virente levi, Semine parvo*, a large Melon, with a smooth green Rind, and a small Seed; and a *Melo longus*, a long Melon, four Spans in Length, and incurved like a Cow's Horn.

Though Melons are in high Esteem among those of a delicate Taste; yet their Pulp is cold and humid, subject to putrefy in the Stomach, and tending to generate Fevers and Gripes. I can easily come into the Opinion of *Dodonæus*, says *Ray*, that Melons are more difficult of Concoction than Cucumbers, tho' *J. Bauhine* thinks the contrary, because of their sweet-scented Pulp, and for that he himself, who labour'd as he says, under a cold and phlegmatic Stomach, had found by Experience more than once, the Inconvenience of eating Cucumbers, that they were difficult of Concoction to the Stomach, and excited Eructations a long time after eating them, which savour'd of them; whereas he always eat Melons without any manifest Inconvenience. On the contrary, for my part, says *Ray*, I never receiv'd any Prejudice from eating Cucumbers, but have been very much disorder'd, and that more than once, by feeding on Melons; but perhaps, says he, these different Effects are to be attributed to an Idiosyncrasy. To prevent Melons from putrefying in the Stomach, it will be proper to eat them with Salt and Pepper, tho' some use only Sugar, and to drink plentifully of Wine afterwards.

The Milk of Melons is esteemed an excellent Remedy in burning Fevers. The Pulp of the Seeds, first bruised in Spring Water, or some other proper Liquor, is pass'd through a very fine Hair Sieve, or a Linen Strainer adapted to the Purpose. This Cremor of the Seed may be successfully exhibited in feverish Disorders, as we are assur'd by *Matthioli*; it is also given in Coughs, Consumptions, and is very effectual in a burning Heat of Urine. *Raii H. P.* p. 644.

It is called *Melo* from the Greek Word *μῆλον*, *Malum vel Pomum*, an Apple, because its Fruit resembles, in great measure, an Apple.

The Pulp of a Melon is said to be cold, but Experience convinces me of the contrary; for its Taste and Smell indicate an aromatic Quality, and prove it an aromatic Plant; which is confirm'd by its Effects: For, if eaten to Excess, they excite bloody Urine; wherefore it is of an heating Quality, and there is scarce any thing in Nature more stimulative to Venery than this Fruit. The Pulp affords very good Nourishment, if us'd

with Moderation, but then it must be eaten upon an empty Stomach. The Seeds have a viscid and farinaceous Quality; the Melon perfectly ripe affords an aqueous Juice, which is loosening to the Belly, as may be observ'd also of the Cucumber. *Hist. Plant. adscript. Boerhaav.*

2. Melo; magnus; cortice virente; lævi; semine parvo. *J. B. 2. 244.*

3. Melo; Hispanicus. *J. B. 2. 244.*

4. Melo; turbinatus. *J. B. 2. 244.*

5. Melo; reticulatus. *J. B. 2. 244.*

6. Melo; pyriformis, moschatus. *C. B. P. 311.*

7. Melo; rotundus; parvus. *C. B. P. 311. Melo, Moschatellinus, parvus. J. B. 2. 244. Boerb. Ind. alt. Plant. Vol. 2. p. 78.*

MELOCACTUS.

The Characters are;

It has a singular Appearance, is succulent, echinated, and polygonal, or has many Angles. The Flower is monopetalous, Bell-shaped, tubulated, naked, multifid, seated in the Ovary, and furnished on the Inside with a Multitude of Stamina. The Ovary becomes a pulposus, soft Fruit, full of numerous small Seeds.

Boerhaave mentions two Species of this Plant; which are,

1. Melocactus; Americana; minor. *Echinomelocactus, minor, lactescens, absque tomento, cylindris striatioribus. Par. Bat. 136. Ficoides, vel Ficus Americana, Sphærica, tuberculata, lactescens, flore albo, fructu rubro pyramidalis. Cat. Hist. Beaum. H. A. 1. 105. Melocarduus mammillaris, minimus, sessilis, uberior, spinulis imbecillioribus donatus. M. H. 3. 171.*

2. Melocactus; Indiæ Occidentalis. *C. B. P. 384. T. 653. Echinomelocactus. J. B. 3. 93. Pomum spinosum Opuntiatum. Munt. Pr. 420. Melocarduus, sulcis rectis, spinis ad angulos appostitis major. M. H. 3. 170 Ficoides Occidentale spinosum, Melonis facie, costis erectis. H. L. 670. Boerb. Ind. alt. Plant. Vol. 2. p. 83.*

It is called MELOCACTUS, from *μῆλον*, *Melo*, an Apple, and *κάκτος*, *Cactus*, a Thistle, because it resembles an Apple, and is furnished with Spines. It is also called *Echinomelocactus*; because it is echinated, or furnish'd with Spines, or Prickles, like the Echinus, or Hedgehog.

The Fruit is eaten, tho' very full of sandy Grains; and has an Acidity, which is very grateful to the Taste, and extremely agreeable to the Inhabitants of those hot Countries, whence it comes: But I find no medicinal Virtues ascribed to it. *Hist. Plant. adscript. Boerhaave. Miller's Diff.*

MELOCARDUUS, a Name for the MELOCACTUS; which see.

MELOCARPUS, according to *Blancard*, is the Fruit of the *Aristolochia*.

MELOCHIA. See CORCHORUS.

MELOCHITES. A Name for the ARMENUS LAPIS; which see.

MELOCORCOPALI Scaligero. *Corcopal Thveti. Lugd.* It is describ'd as a Tree like the Quince-tree, bearing a Fruit shap'd like a Melon, of an agreeable Taste, not unlike that of a Cherry, and somewhat cathartic. *Ray* suspects it to be the same as the CARCAPULI.

MELOCOTONEA. A Species of Peach is thus call'd.

MELON, *μῆλον*, signifies an Apple; a Sheep; or the Cheek; τὰ μῆλα, are the Tonils. *Melon*, or *Mylon*, is also, a Disorder of the Eye, in which it swells, and protuberates out of the Orbit. See OCVLUS.

MELOMELI, *μελόμελι*. Honey impregnated with Quinces. *Dioscorides, L. 5. C. 29.*

MELONGENA.

The Characters are;

The Flowers are monopetalous, rotated, or Wheel-shaped, and multifid; the Fruit is fleshy, and contains Kidney-shaped Seeds.

Boerhaave mentions two Species of this Plant; which are,

1. Melongena; fructu oblongo, violacea. *T. 151. Boerb. Ind. A. 2. 70. Mala infana. Olic. Ger. 274. Emac. 345. Mala infana Syriaca. Park. Theat. 392. Solanum pomiferum fructu oblongo. C. B. P. 167. Raii Hist. 1. 673. MAD APPLS.*

It is cultivated with us in Gardens, and flowers in Summer; the Fruit is used. *Dale.* We take this Plant, with *Marggrave*, to be the *Belingel* of the Portuguese, the *Tongu* of Angola, and the *Macumba* of Congo.

The Apples, being much like those of the Mandrake, have induced some Moderns to suspect this Plant to be the male Mandrake of *Theophrastus*, and, supposing them to be deadly, to call them *Mad Apples*; whereas, in reality, they excite no Symptoms of Madness, but are used by the *Italians* and *Spaniards*, in their Sauces and Sweetmeats. They have the Taste of the Citron. *Margr. Raii H. P. p. 673.*

This Plant induces a Sopor and Madness, whence it takes its Name. *Hist. Plant. adscript. Boerhaav.*

2. Melongena; fructu oblongo albo. *T. 151. Solanum, pomiferum, fructu inflar Mali rotundo, albo. C. B. P. 167. Boerb. Ind. alt. Vol. 2. p. 70.*

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This agrees in Virtues with the former.

MELOPEPO. The Squash.

The Characters are;

It agrees in all Things with the Pompion, except that its Fruit is roundish, striated, angulous, cut into five Parts, and full of flat Seeds, which are affixed to a spongy Placenta.

Boerhaave mentions five Species of this Plant; which are,

1. Melopepo; compressus. *C. B. P. 312.*

2. Melopepo; fructu maximo; albo. *T. 106. Pepo compressus, major. C. B. P. 311. Pepo, Indicus, compressus, maximus. M. H. 2. 25.*

3. Melopepo; Clypeiformis. *T. 106. C. B. P. 312.*

4. Melopepo; verrucosus. *T. 106. Cucurbita verrucosa. J. B. 2. 222. Pepo minor verrucosus. M. H. 2. 26.*

5. Melopepo; tuberosus; & verrucosus. *T. 106. Boerb. Ind. alt. Plant. Vol. 2.*

It has the Name *Melopepo*, because its Fruit comes near in Size to a Melon, and partakes somewhat of the Nature of the *Pepo*, or Pompion.

It is of a moistening and refrigerating Quality, and is esteemed pectoral; the Seeds are reckon'd among the Four cold Seeds. *Hist. Plant. adscript. Boerb.*

MELOPLACUS, *μυλοπλάκας*, is a sort of Cake made of Quinces boil'd in Wine, adding afterwards Honey, Pepper, and other Seasoning, at the Discretion of the Cook. *Galen. de Aliment. Facult. L. 2. C. 27.*

MELOSIS, *μῆλωσις*. The probing a Wound or Ulcer.

MELOTIS, *μηλωτις*, or MELOTRIS, *μηλωτεις*. A small Probe; properly one for the Ear.

MELUSI, Mercury. *Rulandus.*

MEMBRANA. A Membrane. By Membrane we understand a pliable Texture of Fibres, disposed or interwoven together in the same Plane. They differ in Thickness according to the Smallness of their Fibres, or Number of their Planes. These particular Planes are termed Laminæ, and distinguished into external, internal, and middle.

The Difference of Membranes, in general, depends on that of the Fibres, of which they are composed. Small Portions of Membranes, especially when they are very thin, are called Pellicles; and some membranous Laminæ are united together by the Intervention of a particular Substance, composed of this sort of Pellicles, and called the cellular or spongy Substance. *Winslow's Anatomy.*

MEMBRANOSUS MUSCULUS. The same as FASCIA LATA.

MEMBRUM. A Limb, or Member.

MEMYCYLON. A Name for the *Arbutus*. *Ortbasii Collect. Medic. L. 15. C. 1.*

MEMIGMENON, *μεμυγμένον*. The Name of a Collyrium describ'd by *Celsus*, *L. 6. C. 6.*

MEMITHA. Some suppose the *Memitha* of the *Arabians* to be the *Cerinthe*; but *Clusius* takes it to be the *Glaucium* of the *Greeks*.

MEMPHITES LAPIS. *Offic. Matth. 1388. Memphites Aldrov. Mus. Metall. 707. Sardonyx Arabica, alius Memphites. Geoff. Prælect. 79. MEMPHIS-STONE. Dale.*

It is a Stone of a pinguious Substance, parti-colour'd, of the Size of an ordinary Pebble, and found in Egypt near *Memphis*.

They say that this Stone, levigated, and rubbed on the Parts which are to suffer Cutting or Burning, renders them insensible without Danger. *Dioscorides, Lib. 5. Cap. 148.*

What this Stone was, has been unknown since the Times of *Dioscorides*. *Boetius*, in his Chapter of the *Onyx*, (which is parti-colour'd, and incircled with two distinct Zones, the white and the black) says, when the white Zone is scraped off, and discovers under it a black Zone, in Nature of a Stratum, the Stone is called by some *Memphites*, and by the modern Jewellers *Camehnia*, as if it were another Gem. And in another Place he quotes the following Passage from *Ludovicus Dulcis*: It is called *Memphites* from the City *Memphis*; being taken inwardly, or macerated in Vinegar, it induces a Stupor on the Members, so as that they may be amputated without Pain.

MENAGOGUS. The same as EMMENAGOGUS.

MENDESIIUM, *μενδήσιον*. The Name of an aromatic Unguent, described by *Dioscorides*, *Lib. 1. Cap. 72.*

MENDONI. A Name for the METHONICA, *Malabarorum*.

MENDOSA SUTURA. The squamous Suture in the Cranium.

MENDOSÆ COSTÆ. The spurious Ribs.

MENAGETÆ, in *N. Myrsinus, Sect. 1. Cap. 22.* signifies the greatest Cardamoms, or *Grana Paradisi*, in the Opinion of *Puchsur*.

MENINGOPHYLAX, *μηνιγφύλαξ*. An Instrument described by *Celsus*, *Lib. 8. Cap. 3.* contrived for guarding the Membranes of the Brain, whilst the Bone is rasped, or cut, after the Operation of the Trepan.

M E N

MENINX, *μήνιγξ*. A Membrane. But the Word in Anatomy is generally used to signify the Dura and Pia Mater. See **CAPUT**.

MENISPERMUM. A Name for the *Hedera*; *monophyllor*; *Convulvuli foliis*; *Virginiana*.

MENS. The Mind.

MENSES.

Among the natural Actions which prepare proper Juices, and Matter, for carrying on the vital Motions, we may, with the greatest Justice, reckon the menstrual Purgation of Women; since, by means thereof, the superfluous and redundant Blood is evacuated, that what remains in the Veins may circulate with the greater Freedom, and be the more effectually depurated.

The monthly Evacuation of Blood from the Uterus, occasioned by the Redundance of that Fluid in Women, and the peculiar Structure of the Uterus, as it is of great Importance to Health, so it is the means by which the Fœtus is nourished.

The Quantity of Blood, thus monthly evacuated, cannot be exactly and accurately ascertain'd; for it varies in Women of different Ages, Methods of Life, and Constitutions. About the first Eruption of the Menses, the Quantity discharged is generally but small; whereas it is considerably larger in Women arrived at the Years of Maturity. Lean Women, also, and those who abound in Blood, evacuate more than such as are fat, and of a cold Constitution; and those who are addicted to Luxury and Idleness, a larger Quantity than those who live upon low and slender Diet, or use much Exercise. *Hippocrates*, in his first Book *de Morbis Mulierum*, affirms, that two Heminae are discharged; and other Authors, also, maintain that one Pint, or one Pint and an half, is evacuated.

The Cause of this Discharge is nothing but the Redundance of the Blood, the due Evacuation of which is wisely appointed by Nature for the Preservation of Health. Physicians have entertained various Opinions, with respect to the Causes of this Discharge, whilst some ascribe it to the Motion and Change of the Moon; others to a peculiar Ferment of the Uterus; others to the Acheus of *Helmont*, who is supposed to preside over the human Body; and others to a secret and unknown, but wise and well-designed Law of Nature: But, rejecting these mysterious and abstruse Principles, which are but ill accommodated to the common Sense of Mankind, we account for this Discharge from Plenitude, or a greater Quantity of Blood than is necessary.

The soft and lax Texture of the solid Parts, together with the Smallness of the Vessels, is the Reason why Women abound more in Blood than Men; for the more solid the fibrous Parts are, the greater Strength and Resistance they have to impel the Fluids; whereas the softer and laxer the Fibres are, the less Strength and Efficacy they have for this Purpose; and the Pulsation of the Heart and Arteries bears a Proportion to the Strength of the Fibres, and the Capacity of the Vessels. In Men, the Parts of whose Bodies are firmer, and whose Vessels are larger, the Pulse is brisker, fuller, and quicker, than in Women, in whom, by reason of the Softness of the Fibres, and the Smallness of the Vessels, it is more languid, soft, and small: But such as the Pulse is, such the Circulation of the Fluids must of course be; and such as the Orifices of the secretory Vessels are, such is the Transpiration, and Consumption of the Moisture of the Body. Now, since in Women the Blood circulates more slowly, and the Vessels are narrower, than in Men, so, in the former, there will be a smaller Secretion of the perspirable Matter, and, consequently, a greater Redundance of Blood and Humours in the Vessels. Besides, Women use less Exercise than Men: But, according to *Santtorius*, in the ninth Aphorism of his fifth Section, human Bodies are always render'd lighter by Exercise; since it carries off a large Quantity of the Humours contained in them.

That a Plethora is the Cause of the menstrual Discharge, may be, also, confirmed by several other additional Arguments; for those Women who indulge themselves in Luxury and Idleness, who are lean, and of a soft Habit of the Body, have, in consequence of their greater Redundance of Blood, more copious Discharges; whereas fat Women, in whom the Blood is not so much collected in the Vessels, as diffused through the whole Habit; Country-women; those accustomed to hard Labour; those just recover'd from chronical Diseases; those who in Child-bed, or by means of any other Evacuations, have lost large Quantities of Blood; as, also, those who give Suck, or are pregnant, have but very small, or no menstrual Discharges at all.

The best Blood, or that which is most richly impregnated with the nutritive Juices, and not that which is most peccant and corrupted, is discharged from the Uterus: For the Ancients, not knowing the Circulation of the Blood, falsely imagined, that the menstrual Blood was poisonous and corrupted; because a Suppression of it proved so prejudicial to the Body: But the Blood discharged from the Uterus is fluid, and florid; in young Girls pretty thin, but in full-grown Women much thicker. But if it should stagnate for a considerable time in the Vessels, it may, by its Continuance there, be render'd grumous, black, and fetid.

M E N

The peculiar Structure of the Uterus is the Reason why this redundant Blood is evacuated from that Part, and not from other Parts; for such is the Fabric of the Uterus, that its Fibres and Vessels may not only be distended and dilated in an incredible manner, but they are, also, capable of contracting and restoring themselves again to their former Condition; for which Reason the redundant Blood is more easily convey'd to the Uterus, and there collected: Besides, both arterial and venous Vessels, arising from the spermatic and hypogastric Trunks, send off an almost infinite Number of Ramifications to the Uterus and Vagina: And these Ramifications do not run in a direct Course; but are variously contorted, crooked, distributed, as it were, in a serpentine Form, and are very small in Women who are not pregnant; but in pregnant Women they become large, and are stretched in proportion as the Uterus is augmented; for, without such an Incurvation and Flexure of the Vessels, the Uterus could not be distended by the Fœtus, without some Danger of a Rupture of its Vessels. Besides, the Membranes which cover both the internal and external Surface of the Uterus, and through which Vessels are distributed, are covered with no Fat, in consequence of which, the Vessels are the more easily distended and opened: The descending Trunk, also, of the Aorta is observed to be larger in Women than in Men; because in the former a more considerable Quantity of Blood is to be conveyed to the Uterus. Besides, as the perpendicular Ascent of all Fluids is performed with Difficulty; so we find, that the Motion of the Blood through the long and winding Progress of the spermatic Veins to the superior Parts is perpendicular, and, consequently, slow and languid. In a Word, as the Valves, with which the Veins in the other Parts of the Body are furnished, excellently assist the progressive Motion of the Blood, and prevent its Regurgitation, so in the Veins of the Uterus, which are destitute of Valves, the Blood circulates slowly, and, being collected in the larger Vessels, regurgitates to those of the small and capillary Kind, whose tender Orifices it preternaturally distends and stretches. If, therefore, a larger Quantity of Blood is accumulated, than the Vessels can either receive, or the Strength of the Heart and Solids can dispose of in a due manner, it can make its Retreat so properly to no Part, as to the Uterus: For this Reason it is gradually accumulated in the Vessels, and fills their Sinuses, till their Extremities, which terminate obliquely in the Uterus, being too much distended, at last burst, and discharge the Blood into it.

The Eruption of the Blood from the capillary Vessels of the Uterus is not only produced by its Stagnation in the Veins, but, also, by a spasmodic Constriction of the Parts; for it is a constant Observation in Practice, that, in all critical and copious Evacuations of Blood, there are always perceived a certain Coldness of the Extremities, a Pain of the Back, an Inflation of the Abdomen, and a Retention of the Fæces, accompanied with Languor, and a Sensation of Weight; for, according to *Hippocrates*, in *Aph. 39. of Sect. 6.* too great a Repletion of the Vessels produces spasmodic Strictures, by which the Circulation of the Blood through the capillary Vessels is hinder'd: Hence it regurgitates to the larger Vessels, and, when too copiously congested about the Heart, renders its Contraction both stronger and quicker, as is obvious from the hard and large Pulse in every violent Eruption of Blood. The Blood, being, therefore, convey'd through the Arteries to the Vessels of the Uterus, opens their Extremities; and this Effect is the more easily produced, because the Veins of the Uterus, being already loaded with Blood, resist the free Circulation of that Fluid.

The menstrual Blood is evacuated from the minute Vessels, both of the Uterus and Vagina. It is, however, a great Controversy among Anatomists, whether this Blood is discharged from the Veins of the Uterus alone; or those of the Vagina, exclusive of the Uterus: And both Opinions have their respective Patrons, who appeal to the Evidence of Sense, for what they espouse as Truth. I, on the contrary, affirm, that both Opinions may be true; but, because more Vessels are distributed to the Uterus, than to the Vagina, and because the spermatic Veins, which are distributed through the Ovaria, are very winding, we may justly affirm, that large Effusions of Blood, as in Abortion, proceed from the Vessels of the Uterus; whereas the ordinary menstrual Discharges proceed from the Vessels of the Vagina. But whether the menstrual Blood is discharged from Veins, or small Arteries, cannot be accurately determined; but, because it is evacuated Drop by Drop, I am inclined to think, that it rather proceeds from the former than from the latter, especially because, according to *Fantoni*, in his *Anatomia Corporis Humani*, Air blown into the Veins of the Uterus is readily convey'd to its Cavity, and to the Vagina; and because the Coats of the Veins are more easily opened, than the Sides of the Arteries.

The Causes of this stated and periodical Discharge of Blood from the Uterus are purely mechanical: Many imagine the Moon to be the Cause of this surprising Phenomenon, because it recurs at a certain State or Phase of that Planet: But, because the same Effect recurs on a certain Month, Day, or Hour, we are not, for that Reason, to ascribe this Effect to the Influence of the Stars; for, in consequence of the slow Circulation of the Blood,

Blood, and the languid Perspiration in Women, it is necessary some Quantity of superfluous Blood or Humours should be accumulated in the Vessels; by which means a Plethora is gradually induced. Let us suppose, then, that a certain determinate Quantity of Blood, a Pint and an half, for Instance, is necessary to produce this Eruption through the Vessels of the Uterus; and that, in order to collect this Quantity, a certain Time, twenty-eight Days, for Instance, is requisite; it will from this follow, not that this Time is the direct Cause of the menstrual Discharge, but that a certain Time is requisite to the Accumulation of such a redundant Quantity of Blood, as is sufficient to excite Spasms, and produce a Rupture of the Extremities of those Vessels which terminate in the Uterus: From the particular Quantity, therefore, of menstrual Blood discharged from each Woman, we may easily determine how much superfluous Blood, and nutritious Juice, is each Day generated in every individual Woman; and, consequently, what Quantity ought to be expelled and discharged.

Daily Experience proves, that this Discharge greatly contributes to the Preservation of Health; for, when this Evacuation is carried on in a regular and natural manner, a perfect State of Health is enjoyed; but when it happens to be either defective, or excessive, it lays a Foundation for an incredible Number of Disorders. This Doctrine is confirmed by *Hippocrates* in *Aph.* 57. of *Seft.* 5. And *Galen*, in his Treatise *de Venesectione adversus Erasistratum*, uses the following Expressions: "Does not unerring Nature every Month evacuate the superfluous Blood from Women? For as the female Sex stay much at Home, are unaccustomed to hard Labour, deprived of the Advantages of the free and open Air, and accumulate large Quantities of Humours, I am of Opinion, that the Evacuation of these superfluous Humours is, as it were, the Remedy kindly appointed and ordained by Nature." For, in order to the due, equal, and free Circulation of the Blood, which maintains the Soundness of all the Parts and Functions, a certain determinate Quantity of Blood is requisite; and when this Quantity is either excessive, or defective, the due Circulation of the Blood, so conducive to Health, must necessarily be disturbed.

An excessive Redundance of Blood, in consequence of a Suppression of the Menfes, retards the Circulation of the Blood, and impairs the Strength, Elasticity, and Contraction of the Heart and Vessels. Hence Stagnations and Congestions of Blood, together with Obstructions of the Viscera, prove highly injurious, and lay a Foundation for great Numbers of chronical Disorders; for from a Diminution, or total Suppression, of the Menfes, most of the Diseases incident to Women proceed, which are widely different, according to the various Parts they affect: Thus, if Blood should stagnate in the Head, it excites Melancholy, an heavy Pain of the Head, a Vertigo, a Dimness of Sight, and Dulness of Hearing, Paleness, Madness, and, sometimes, Apoplexies. On the contrary, when Blood is congested in the Præcordia, it produces a Difficulty of Breathing, an Asthma, a Cough, a Spitting of Blood, a Palpitation of the Heart, and Syncope. If Blood becomes stagnant in the Stomach and Intestines, Inflations, Rumbings, Eructations, Uneasiness of the Præcordia, Vomitings of Blood, and Gripes, are produc'd. If the abdominal Viscera are loaded with thick Blood, a Cachexy, an Heaviness of the whole Body, a Scurvy, a Jaundice, hysteric Disorders, purple Fevers, Tumors of the Legs and Feet, and Varices of the Veins, are generated. If too large a Quantity of Blood is accumulated in the Uterus, a *Fluor albus*, Inflammations of the Part, Moles, and Abortions, are produced. But by restoring the menstrual Discharge, all these Disorders are either alleviated or remov'd; or they may be prevented by seasonable Venesection. The particular Method of treating all these Disorders is deliver'd under the Article *UTERUS*; which see.

The Menfes generally make their first Eruption in Girls about fourteen Years of Age, and cease between forty and fifty, at which times a large Number of Disorders are generally produced. This Discharge generally begins in Girls about fourteen Years of Age; because at that time a larger Quantity of Aliments is used and digested, and consequently a greater Quantity of Blood generated, which in their younger Years was much more serous, though well enough calculated for the Nourishment of the Body. When this Evacuation begins, the Body is frequently freed from numberless Disorders arising from the Redundance of Serum before generated. But this Discharge generally ceases in Women between forty and fifty Years of Age, because, at that time, the Fibres become more rigid, the Mouths of the capillary Vessels are block'd up, and the spasmodic Motions which produce this Excretion begin to fail. Unless, therefore, we relieve Women at this Age by seasonable Venesection, or by increasing the Evacuations by Urine or Transpiration, they are generally afflicted with various chronical Disorders.

Not only Women, but, also, Men, who generate large Quantities of Blood, evacuate the superfluous and redundant Part of it by the hæmorrhoidal Veins.

As Women, in consequence of the Smallness of their Vessels, and the soft and flexible Structure of their Fibres, become plethoric, and receive incredible Advantage from the Evacuation of

the Menfes, so Men of similar Habits and Constitutions, in consequence of an increased Plethora, discharge the superfluous and redundant Blood by the hæmorrhoidal Veins: The hæmorrhoidal Discharge in Men is more frequent than is generally imagined, as Physicians much conversant in Practice very well know. But such Men as are full of Juices, of delicate Complexions, and whose Flesh is lax and spongy, are most subject to this hæmorrhoidal Discharge; because Persons of such Habits, in consequence of their languid Pulse, and the Narrowness of their secretory Vessels, do not evacuate a Quantity of Juices proportion'd to that generated from the Aliments they use: Such Men are, in their younger Years, subject to Hæmorrhages from the Nose, or a Spitting of Blood; but, when they are more advanced in Years, they become subject to the hæmorrhoidal Discharge, which is both more copious and frequent, the more Blood there is accumulated in the Veins.

The hæmorrhoidal Discharge is highly salutary, because it frees the Body from a Plethora, and consequently prevents the Disorders which would, in Process of Time, arise from it: For which Reason the Antients justly dignified this Evacuation by giving it the pompous Epithet of *Golden*; and others call it the bountiful Work of powerful and salutary Nature; because it procures Health, and protracts Life to old Age. Nothing is, therefore, more prejudicial, than unseasonably to diminish, or suppress, this accustomed and salutary Evacuation, by improper Diet or ill-chosen Medicines; for by this means violent Obstructions and Infarctions of the Viscera, and, in consequence of these, chronical Disorders, such as Cachexies, Dropsies, the Stone, spasmodic Flatulences, Melancholy, convulsive Colics, and sciatic Pains, are generated, all which are happily removed, by prudently and seasonably restoring the hæmorrhoidal Discharge. But we must distinguish between that Species of Hæmorrhoids, which is critical, salutary, and evacuates the redundant Blood; and that less auspicious Kind, which draws its Origin from a local preternatural Constitution of the abdominal Viscera. In consequence of this last-mentioned Misfortune, we often observe cachectic, hypochondriac, and dropical Patients afflicted with the hæmorrhoidal Discharge, which sometimes afford Relief, and sometimes proves prejudicial, especially when it is too copious.

The Preservation of the human Body, which is highly subject to Corruption, depends upon the free Circulation of the Blood, which, again, depends on the due Ingestion, Retention, and Excretion of such things as are most suitable to Nature; for the vital Functions consist in the several Motions both of the solid and the fluid Parts. But these Motions can neither long subsist, nor have Matter to exercise themselves upon, unless by means of the natural Actions subservient to the due Ingestion, Secretion, and Excretion of proper Aliments. The Aliments, therefore, taken, and the Excretions made, are of the greatest Importance, either to the Preservation of Life and Health, or the Production of Diseases; for which Reason the Physician ought always to have a due regard to them. See *DIÆTA*.

'Tis certain from Experience, that frequently, when by any Cause the Menfes are suppressed, the Blood which ought to have been discharg'd by the *Pudenda*, is conveyed to other Parts, and discharged in preternatural and uncommon Hæmorrhages. Thus *Horslius*, in *Præfat. ad Part. 2. Obs. Schenkii, Lib. 4.* informs us, that upon a Suppression of the *Menfes*, the Blood regurgitated, and was discharged from the Ears. And *Hollerius* in *Comment. in Lib. 2. Seft. 2. Coac. Prænot.* as, also, *Johannes Rhodius, Cent. 3. Obs. 51.* affirm, that they have known the menstrual Blood critically discharged from the Gums, and the Sockets of the Teeth. But it is more frequently observ'd, that this Blood, which ought to be discharged from the Uterus, is thrown up by Vomit, in consequence of a Rupture of the Veins of the Stomach; which is sufficiently confirmed by *Hippocrates*, in *Lib. 1. de Morb. Foreflus, Lib. 16. Obs. 25. Panarolus Pentecost. 1. Obs. 6. Rodericus a Castro, de Morb. Mulier. Lib. 1. Cap. 3. Hoechstetterus, Obs. Dec. 2. Cas. 7. Stalpart vander Wiel, Cent. 2. Obs. 17.* and several other Authors. It, also, sometimes happens, that, when the Blood cannot be discharged through the Vessels of the Uterus, it is, with a considerable Impetus, conveyed to the Lungs, where, bursting the Vessels, it is discharged by Coughing. Instances of this are found in *Holler, de Morb. intern. Lib. 1. Cap. 29. Rhodius, Cent. 3. Obs. 30.* and *Salmuthus, Cent. 2. Obs. 18.* In old Women, also, when the menstrual Evacuation ceases, a Discharge of bloody Urine frequently ensues; so that there are Instances in which, at every stated Period of the *Menfes*, Blood, partly fluid, and partly grumous, has been discharged with the Urine.

But every judicious Physician must readily perceive, that such an Evacuation of the menstrual Blood from improper Places, must necessarily be very unsafe and dangerous. But the more noble and necessary to Life the injured Part is, the greater the Danger must, of course, be. Thus, if the Lungs, so necessary to the various Functions of Life, are affected and lacerated by stagnant Blood, an ulcerated and phthisical State of that Organ is readily brought on. To this Purpose we find a memorable Passage in *Prosper Alpinus, Medic. Method.* which runs thus: "The menstrual Discharge is suppress'd by immoderate Evacuations

" of

" of Blood, or long-protracted Diseases; but if this Suppression continues for a considerable time, the Patients are subjected to terrible Misfortunes, and some are seized with a Spitting of Blood, after which they fall into a Phthisis; an Accident of which kind happen'd to one *Æmilia*, a young Lady of Distinction, who, by continual Grief and Sorrow, having her Menfes suppress'd, was seized with a Spitting of Blood, a continual Cough, and a slight Fever, which, a few Months after, put an End to her Life." *Hippocrates*, also, in his first Book *de Morb. Mulier.* informs us, "That in some Women the menstrual Blood, being retained in the Uterus for two Months, regurgitates to the Lungs, and produces all the Symptoms of a Consumption." But if this Blood should be lodged between the highly sensible Membranes of the Stomach, and become corrupted or coagulated there, a dangerous Inflammation of the Stomach, or an hectic Fever, is produced; or, if it should happen to make an Eruption, the Vessels of the Stomach, before too much distended, are so dilacerated, especially if the Spleen is previously disordered, that they cannot be again consolidated, but a copious Vomiting, frequently recurring, puts an End to the Patient's Life.

An Instance of an Epilepsy arising from a Retention of the Menfes is found in *Miscel. Nat. Curios. Dec. 1. An. 1. Obs. 85.* and another Instance of an obstinate Loss of Memory brought on by the same Cause is recorded in the *Acta Hassniensia*: 'Tis, also, certain from Experience, that a Retention of the Menfes, throws the nervous System into such Commotions, as to excite hysteric Disorders; which we find confirmed by *Hippocrates*, in his Treatise *de Morb. Mulier. In Miscel. Nat. Curios. Dec. 2. An. 1. Obs. 79.* we have an Instance of a Dropsy of the Uterus arising from a Suppression of the Menfes; and we learn from Experience, that Exulcerations, violent, and even scirrhus Tumors of the Uterus are sometimes produced by the same Cause. Neither do the external Parts of the Body escape the fatal Consequences of a Suppression of the Menfes, since we know from Experience, that by this means they are frequently affected with the Itch, the Elephantiasis, Boils, erysipelatous Disorders, or scirrhus Tumors.

As all these Misfortunes are, in young Women, brought on by a Suppression of the Menfes, so they often happen to those in whom this Evacuation ceases, by reason of Age; for I have known from Experience, that Women, after fifty Years of Age, especially those of sanguine Habits, who have formerly been accustomed to copious menstrual Discharges, and who lead sedentary, idle, and delicate Lives, whilst, at the same time, they neglect Venesection, have been afflicted with violent Cardialgias, accompanied with intense Heat and Pain about the Præcordia, the Back, and Scapulæ, especially in the Night-time. I have seen others, from the same Cause, seized with intolerable Heat and Pain of the Joints, and erysipelatous Fevers, whilst others were afflicted with nephritic Disorders, accompany'd with Pains of the Loins, and terminating in calculous Concretions. Some Women, after the sixtieth Year of their Age, have discharged bloody Urine, or been seized with an immoderate Discharge of the Menfes, which has, at last, terminated in an Hæctic. Some Women, especially those walled by long Grief, have been afflicted with a Pain of the Left Hypochondrium, accompany'd with an Uneasiness and Heat of the Præcordia; and which, afterwards, terminated in a violent Vomiting of Blood, or the Morbus Niger of *Hippocrates*. In such Patients, upon laying open the Body, the Spleen has been found preternaturally large and putrid, the Vasa Brevia of the Stomach ruptured, and gaping, and the Blood discharged from these Vessels into the Ileum. A Lady of uncommon Distinction, upon the Cessation of her Menfes, in the fifty-third Year of her Age, was seized with continual and tormenting Vomiting for half a Year: after which, a Swelling of her Hands and Feet appeared, which, however, was happily removed by Venesection, and other proper Remedies. *Frederic Hoffman.*

With respect to the menstrual Flux, I am of Opinion, that the Blood is discharged from the Extremities of the uterine Arteries, where they open into the Veins; and that this periodical Flux is not excited by the Force which the Contraction of the Heart impresses upon the circulating Blood, but by the subsequent Impulse of the contracting Arteries, which forces the Blood out of the Arteries into the continuous Veins. Now, whenever, upon any Occasion, the Strength and contractile Force of the Arteries is impaired to a certain Degree, the Menfes become deficient, as it happens in lax and cachectic Habits. Hence the Reasons are obvious, why Astringents, as Bitters, the Bark, Steel, and all those Medicines and Methods, which impart Strength to the Fibres, Vessels, and Viscera, and increase their Elasticity, and contractile Force, if prudently managed, excite the menstrual Flux, and cure Disorders arising upon the Suppression thereof. See the Articles CACHEXIA, CHLOROSIS, FIBRA, and UTERUS.

I must not finish this Article, without taking notice of some very idle Pieces of Superstition, which do no great Honour to human Sagacity. One is, what *Columella* relates of *Democrates*, that, in his Book of Antipathy, he assures us, that all those Caterpillars, and other Insects, which destroy a Garden, fall off, and die, if a Woman, with her Menfes upon her, walks three times round each Quarter of it bare-foot, and with her Hair loose.

But, to do Justice to this great Man, I must remark, that the same *Columella* informs us, that the Books, in his Time ascribed to *Democrates*, were really wrote by one *Delus*, or *Bolus*, an *Egyptian*.

It is much less surprising, that *Paracelsus* should believe the menstuous Blood to be the greatest of Poisons; that, with it, the Devil produced Spiders in the Air; and that Fleas, Beetles, Caterpillars, and other Insects, were generated by it: For as this Enthusiast, who did not want Imagination, was, when young, accidentally depriv'd of his Virility by a Sow, it is remarkable, that he misses no Opportunity of disgracing a Sex, in which he had no Delight.

MENSIS Philosophicus. A Philosophical, or Chymical Month: This is a very undetermin'd Space of Time; for some make it only three Days and Nights, others ten, some thirty, but most, forty. See **MENSTRUUM**.

MENSTRUUA. The same as Menfes.

MENSTRUATIO. Menstruation.

MENSTRUUM.

This is a barbarous Term, and denotes a Body, which, when artificially apply'd to another, divides it subtly, so that the Particles of the Solvent remain thoroughly intermixed with those of the Solvend. This Solvent was called a Menstruum, because the Chymists, in its Application to the Solvend, first used a moderate Fire, for a Philosophical Month, or forty Days; and hence arose the Name of a menstrual Solvent, at length, barely a Menstruum.

It is the Property of a Menstruum to be itself equally dissolv'd, when it dissolves the Solvend; but, when the Solution is perfected, it may sometimes happen, that the Solvent and Solvend shall separate. The divided Parts, therefore, of the Solvent, must insinuate themselves among the Parts of the Solvend, so as to divide and dissolve the Body. Hence it appears, that the Action of Menstruums differs from all mechanical Separations, where the Instrument, such as a Knife, Sword, or Saw, while it divides, is not itself divided, but remains almost entire. But there is some Reason to suspect, that the single Particles of a Menstruum act like mechanical Instruments, by the Properties of their own proper Size, Figure, Hardness, and Gravity. Every Menstruum, while it dissolves, is necessarily divided into invisible Particles, and must, therefore, be fluid in the Action; and, when the Dissolution is completed, the Solvent and Solvend must become one Fluid.

Custom has given the Name of Menstruums to many Bodies of a hard, consistent Nature, though, in that State, they cannot act as Solvents; and hence the Chymists have divided Menstruums into Solid and Fluid.

Dry or solid Menstruums may be again divided into five Classes. 1. The six Metals, Gold, Lead, Silver, Copper, Iron, and Tin; which act upon one another after being fused in the Fire, and may be intimately mixed, so as to make an apparently homogeneous Mass, every Particle of which holds the same Proportion of a different Metal, as the Whole. For, if ten Ounces of Silver be thus mixed with an Ounce of Gold, and a Grain of this Mass be given to an Assay-master, he will discover, that it contains one eleventh Part Gold, and ten Parts Silver. The same would be the Case, if an hundred thousand Parts of Silver were mixed with one of Gold. Thus the least Particle of Gold may be extended through an immense Mass of Silver, so that every the least assignable Particle of Silver shall contain a proportionable Particle of Gold, while the Particle of Gold remains unchanged among the unaltered Parts of the Silver. 2. The Semi-metals, as Antimony, Bismuth, Cinnabar, Marcasites, and Zink, which, when melted, mix with one another, or with Metals; but the Metals, even to the most minute Particle, are no longer malleable, but easily reduced to Powder. 3. The dry Salts; as Alum, Borax, Nitre, Sal Ammoniac, Sea-salt, Vitriol, fixed Alkali, and Mercury sublimated; which may be sublimed by Fire, and intimately mix with one another, with Metals, Semi-metals, and other Things. 4. Hard, fossil, sulphureous Bodies; as Sulphur Vivum, common Brimstone, Arsenic, Orpiment, and Cobalt. 5. Those fossil Bodies, called by the Refiners, Cements; which consist of Salts, Sulphurs, and Brick, reduced to dry Powders, and strow'd betwixt Plates of Metal, in order to raise their Colour, or separate one Metal from another.

Some Menstruums, being left to themselves, after the Solution, concrete into an hard Mass, which, tho' compounded, appears of a simple uniform Nature. In this manner, if melted Lead be mixed with melted Tin, they unite as Water with Water, or Mercury with Mercury. The Case is the same in all the Metals, and some of the Semi-metals. Thus, if a Scruple of Regulus of Antimony be added to a Pound of melted Tin, the Mass, when cold, will appear uniform, but become entirely brittle. So fixed Alkali unites with Sand in the Fire; and Sulphur and Mercury, by being ground together, turn to a black and dry Powder, which, being sublimed, produces an apparent simple Body called Cinnabar. Many fluid Solvents intimately dissolve some solid Masses, and after the Solution become an hard, and sometimes a dry Body. Thus almost all the Menstruums of Metals unite with their respective Metals into solid Vitriols; and thus strong distilled Vinegar, when it has dissolved Shells, Chalk, and stony Substances,

Substances, separates from its Water, and, together with the Bodies it dissolves, forms a dry hard Mass.

Numerous Menstruums have a liquid Form, before they act as Solvents; as Vinegar, Water, saline, acid, alkaline, and compound Spirits, alkaline Oils *per Deliquium*, &c.

Some Menstruums become liquid after the Solution, and continue so with the Solvent. Thus, in the Dissolution of five of the Metals with simple Mercury, a soft Paste is produced, which may be diluted indefinitely by the Addition of more Mercury; but there is scarcely any known Method of restoring this Amalgama to its Solidity. All the liquid Acids, after having dissolv'd Metals in a large Proportion, cannot easily be dried; whence many have imagined these Solutions to be fixed metallic Oils, and in vain sought great Secrets in them, though it is no more than a Way of collecting acid Salts in a large Quantity about Metals.

It is now easy to observe, that many Menstruums unite Bodies, as well as separate them: For frequently after the Dissolution the Particles of the Menstruum presently join with those of the Solvent, and produce a new Compound, often very different from the Nature of the simple resolved Body. The Parts, however, of the Solvent, after its Concretion, no longer touch one another, but are separated by the Interposition of the Particles of the Matter dissolv'd. And the Particles, which before constituted the Solvend, are separated by the Interposition of the Particles of the Solvent.

Hence it is plain, that the Parts of the Menstruums apply themselves to the Parts of the Solvend; and a certain Cause is here required, to make the Particles of the Solvent fly from one another, and approach the Particles of the Solvend, rather than remain in their former Situation. The like Cause seems to be required, to make the Particles of the Solvend, now separated, remain united with the Parts of the Menstruum, rather than suffer the dissolving and dissolved Particles to unite, by their natural Affinity, into homogeneous Bodies.

This Cause must be sought as well in the Solvend, as the Solvent; for the Action is reciprocal. Thus, while Aqua Regia dissolves thrice its Weight of Gold into a yellow Liquor, the Particles of Gold are united with the Aqua Regia, and remain suspended in it, though Gold be eighteen times heavier than Aqua Regia: Whence there must be a mutual corresponding Power between the Particles of the Gold and Aqua Regia, whereby they act upon, embrace, and detain each other; otherwise the Particles of Gold would fall to the Bottom, the saline Particles rest upon them, and the Water float over both.

If we were to deduce the Cause from Similitude of Substance, the Action of Dissolution seems to be performed by a certain Power of the Parts of the Menstruum to attract the dissolved Parts, rather than to repel them; and is not a mechanical Action, or unfriendly Commotion, but rather an Appetite of Union. Thus, in a violent Solution, the Agitation, Heat, Hissing, and Tumult, cease, when all the Parts of the Solvend have united with those of the Solvent; as appears on throwing a Piece of Iron into weak Aqua-fortis.

The whole Solvent never acts once on the whole Solvend. Only those Particles of the Solvent, which touch other of the Solvend, first act; and these, being separated, fresh Particles of the Menstruum apply themselves to others of the Solvend.

Therefore, Part of the Menstruum acts upon that Part of the Body which it strikes off, and separates; but the Conflict made in this Separation excites a greater Motion in the Menstruum, by which means other Parts of the Menstruum are agitated, and applied to other Parts of the Solvend.

Fire certainly excites, promotes, and increases, the Action of Menstruums; for in extreme Cold Solutions are either not made, or made but slowly; but they are soon performed by the Assistance of Heat.

Some Menstruums require a strong Heat, as Mercury, before it will dissolve Metals: Some a smaller; thus Sal Ammoniac, Sea-salt, and Salt of Tartar, easily dissolve in Water. Some Menstruums act with a moderate, but lose their dissolving Power, or even acquire a Power of coagulating by a stronger. Thus warm Water dissolves the White of Eggs, which boiling Water coagulates.

This Effect of Fire seems to be produced, 1. By impelling, moving, and agitating the Menstruum, in the manner of a mere mechanical Motion. 2. By its general Power of expanding the Substance of all Bodies. 3. By separating the Parts, so as to set them farther asunder. In most Cases the Heat is increased during the Solution; and even the Action of those Menstruums is augmented by Heat, which generate a great Degree of Cold in the Solution: Thus Sal Ammoniac dissolves soonest in warm Water.

OF THE ACTION OF MENSTRUUMS.

The Changes wrought upon Bodies by the dissolving Power of Menstruums seem greatly to depend upon the minute Particles of the Menstruum now strongly cohering with the Particles of the Solvend; and can scarcely be attributed to an essential Alteration introduced by the Menstruum into the dissolv'd Particles. Though pure Metals, such as Gold, Silver, and Mer-

cury, dissolv'd, seem entirely changed; yet they may be easily separated from the Menstruums in the Form of a Calx, which being fused in the Fire, the Metal is recover'd unchang'd. Hence it appears, that the Menstruums have no other Effect, than barely adhering to the Surfaces of the metallic Particles, while divided: Many more Instances of this kind may be given.

But it may be objected, That Solution produces new Bodies; because, if red Lead be dissolved in distilled Vinegar, there arises Sugar of Lead, when the Acid of the Vinegar is attracted into the Particles of the Lead; and though this Salt of Vinegar be distilled in a Retort with a strong Heat, the Spirit of Vinegar is not recovered, but a particular Liquor obtained, which will burn in the Fire. There are many more Instances of the like kind; but we must consider, that the adhering Parts of the Menstruum cannot always clearly extricate themselves, but remain united. Hence some imagine, that the Nature of Bodies is destroyed, while there only happens such a simple Conjunction of unchanged Particles, under a new Appearance.

Thus the Blade of a Lancet or Knife, when naked, has the Appearance of the Power of Cutting; but, when in the Sheath, it has not, then, the same Appearance; tho' in themselves the Knife, or Lancet, is still the same. The easier they are to be unsheath'd, the sooner the Appearance of their cutting Power becomes manifest; but, if the Sheath was to be firmly connected with the Blade, we should not scruple to say, that the Blade was changed. So if a little Cylinder of pure Silver be gilt, and so put into Aqua-fortis, the Silver will be perfectly dissolved, and leave the hollow Covering of Gold entire, floating like a black Film in the Menstruum. Whence the acid Parts of Vinegar may be so united to certain Parts of Lead, as not to separate upon Distillation, but easily rise together. It would, therefore, be wrong to assert, that the Acid of the Vinegar was thus converted into a new kind of inflammable Liquor by the Contact of Lead: It is highly probable, that this Difference much oftener happens from Combination, than from any Change of the Substance; and the like holds, also, in Separation. For the Substance dissolved often consists of very different Parts, some of which are perfectly taken up by the Menstruum, while others are rejected, and left separate: Whence, after the Menstruum is abstracted from the Solution, there remains a different Substance from what was employed as the Solvend. And hence, without Caution, one might be ready to infer, that the Substance thus procured was a new one, produced by the changing Power of the Solvent; whereas, in reality, it is only produced by a bare Separation.

Hence we may learn, that the Action of all known Menstruums depends upon Motion: For, if a Menstruum did not change the Motion of the Parts upon which it acts, those Parts would remain as they were; in which Case the Menstruum, contrary to Supposition, could have no Action at all. The Origin of this Motion we cannot fairly attribute to the common Causes of Motion, such as Impulse, Gravity, Elasticity, Magnetism, and the like; but there is a particular Cause, not common to all Bodies, exerted between the Solvent and Solvend. An Inquiry should be carefully made into this Subject, to which we are the more incited, as some great Philosophers have conceiv'd, that all the Actions of Bodies must be accounted for mechanically.

When a Solvent divides its Solvend by a mere mechanical Motion, this Motion must be generated in the Particles of the Solvent by some Cause, and this Cause is generally Fire. The Particles of the Menstruum, thus agitated, must strike against the Surfaces of the united Particles of the Solvend, communicate to them their Motion, and loosen and separate them from the Solid, whether this Action be exerted externally, on the Surface of the Solvend, or internally, by penetrating the Solvend. Though this mechanical manner of acting may have some Effect, it is, perhaps, less than is generally imagined: For Fluids can produce little Alteration in a Solid, by means of their Quantity, Hardness, Figure, and Weight; and the Force they receive from the Fire is but small, and always as capable of acting upon themselves: The Power of Solution, therefore, must depend upon some other Cause. Thus a Wedge could never cleave Wood by being barely applied to it, or kept floating about it; but must first be fixed into the Substance, and then driven farther by an external Force; an Action not to be expected from the Particles of a yielding Fluid.

Those Menstruums alone appear to act mechanically, which, by a bare mechanical Motion, arising from their Magnitude, Hardness, Figure, Weight, and Impulse, first attenuate Bodies, then directly separate from them again, according to their specific Gravities; by which kind of Solution no great Change can arise. By this Mark we may distinguish Menstruums which act mechanically, from others.

Repulsion, also, may cause Bodies to separate, after having been mix'd together by Shaking; as in Oil and Water, or Alcohol and Oil of Tartar *per Deliquium*; where not only Gravity, but, also, Repulsion, occasions a Separation, and suffers similar things to unite with similar.

When, after Solution, the dissolv'd Particles remain equally mix'd with those of the Solvent, though, at first, they differed remarkably

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remarkably in their Weight, such a Solution may partly be ascribed to the general mechanical Power, which here almost universally occurs; but principally to another Action, arising from the peculiar Properties of the Solvent and Solvend with respect to each other: As by this Power the Particles of the one attract the Particles of the other, thus both are separated from their former Concretions, and afterwards permix or unite with each other, so as to form numerous new Species of Bodies.

To illustrate this Doctrine by an Example: If a Ball of soft Clay be put into Water, and set over the Fire to boil, the Parts of the Water put in Motion by the Fire will divide the Clay into small Particles, and permix them with the Body of the Water, while the Boiling continues; but when the external Force of the Fire ceases, and the Water comes to rest, and grows cool, all the Clay falls to the Bottom: This I would call a mere mechanical Solution.

But if a Ball of Sal-gem be boiled in four times its Quantity of Water, all the Salt immediately dissolves so perfectly as to remain totally imbibed, suspended, and uniformly diffused in the Water, even after it grows cold, and is thoroughly at Rest; altho' the Gravity of the Salt is much greater than that of Water. Whence it appears, that the Water has a Power, by which it unites to itself the Particles of the Salt, so that they cannot be separated from it by their own Gravity, but remain suspended. The closer or looser Degrees of Adhesion of the Particles of different Menstruums with the Particles of the Body dissolv'd are almost infinite; and hence arise numerous Differences in the Corpufcles produced by Menstruums.

We may now divide all known Menstruums into four Kinds: 1. Those which act by a mere mechanical Power, which are few, and generally simple. 2. Those which, while they in some measure act by a mechanical Motion, principally owe their Efficacy to a certain repelling Power. 3. Such as chiefly act by a mutual Attraction between the Parts of the Solvent and Solvend, which are very numerous. 4. Those which act by the joint Concurrence of the several Properties above-mentioned, and these are the largest Number. If it were possible to class Menstruums according to the Differences of their Actions, and thence to form lower Classes, Chymistry might be brought to Rule, and the Event of every Operation be determined *a priori*; and hence chymical Experiments might be advantageously extended to other Branches of natural Philosophy.

We shall now give an Example of each Kind, with regard to mechanical Solution:

Take an Ounce of pure Silver; put it into a clean strong Crucible, cover'd close with a Tile; set it in a gentle Fire; and, when almost ignited, give a strong Blast-heat, till the Silver runs as thin as Water: Take the Crucible out of the Fire, and, holding it high in the Air, pour the fluid Metal, by a little at a time, into cold Water, that rises at least a Foot in the containing Vessel: Thus the Parts of the melted Silver will enter the Water with a gentle Hissing, and, upon the first Contact, separate into small Grains, and fall to the Bottom, without any further Change, either in the Silver, or in the Water: Thus the melted Silver divides the Water, and is divided by it, while neither are alter'd by the Division, but range themselves according to their respective specific Gravities.

The like Experiment succeeds in Gold.

But, if made with Copper, the melted Metal no sooner touches the Water, than it instantly recoils, and flies off, with an incredible Force, divided into such subtile Particles as scarcely to be found again. Thus there may be Menstruums, which surprisingly dissolve the Solvend by a repelling Power.

Take four Ounces of the Flower of Sulphur; put them into an unglazed earthen Pan, covered with a Tile, to prevent the Sulphur from catching Flame: Set it over a Fire, so gentle as barely to keep the Sulphur melted: Put six Ounces of pure Quicksilver into a strong, clean, Linen Bag, and suspend it over the melted Brimstone; into which, being uncovered, gently squeeze a little of the Quicksilver, and stir them together with an heated Spatula, till, by degrees, all the Quicksilver be mixed in, and a black, brittle, stringy Mass will be obtained; which, viewed through a Microscope, shines, and appears metallic.

Here we see a dry fluid Solvent, and a dry hard Solvend, Substances very different in their Origin, Gravity, Kind, and Degree of Volatility, and little disposed to unite, when entire, which, upon the Contact of their minute Particles, concrete together, by Attraction, so tenaciously, as not again to be separated by Fire. The Causes of this Union are, 1. Fire, which melts the Sulphur, and divides it into its minute Particles. 2. The Division of the Mercury, by passing through the Linen Bag, and falling by little at a time into the Sulphur. 3. The constant stirring of them together. But these three Causes only apply the Mercury to the Sulphur. 4. A Power in both, whereby, when touching in many Surfaces, they attract each other so strongly,

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as to require a great Force, or a stronger Attractive of either, before they will separate again; and thence mutual Attraction is the principal Cause of the Effect. Whence, 5. arises so strong a Cohesion, that, though sublimed, they do not separate, but rise in minute Particles of Cinnabar, the smallest of which consist of Sulphur and Mercury united. For the Mercury returns from it unaltered, when another dry Menstruum is added, which attracts the Sulphur stronger than the Sulphur attracts the Mercury. Thus,

If twelve Ounces of Cinnabar, made ever so fixed by repeated Sublimation, be ground to Powder, and well mixed with an equal Quantity of clean Iron Filings, then distilled in a strong Fire, all the Mercury comes over, in its own native Form, leaving behind a fixed Mass, made by the Union of the Sulphur and Iron, which always unite more eagerly than Sulphur and Mercury.

As an Instance of the attractive and repellent Kind;

Take a Pound of common Antimony, reduced to Powder: Melt it in a clean Crucible, close covered, till it runs like Water, and discharges a copious white Fume; then take the Crucible out of the Fire, and let it rest in a quiet Place till perfectly cold; when the Surface of the Antimony will appear rough, unequal, and full of Holes.

Upon breaking the Crucible, you will find the bottom Part of the Mass solid, metallic, and shining; but the upper Part porous, white, yellowish, and Lead-coloured: Whence we see, that the Fire, by melting the Antimony, had dissolved its metallic and sulphureous Parts; which, being thus set free, range and associate themselves differently, the metallic with metallic, and the sulphureous with sulphureous, while the metallic and sulphureous mutually repel each other; so that, in this Solution, Fusion by Fire, Repulsion, Attraction, and Gravity, acted together. If this Experiment be supposed not to shew the Nature of a Menstruum, yet many Particulars may hence be learned, which happen in the Actions of Menstruums.

To shew how Menstruums may act by different concurring Ways;

Take four Ounces of fine Antimony, reduced to a subtile Powder: Grind with it two Ounces of hot and dry Salt of Tartar, in an heated Mortar, and a warm and dry Air, the Pestle, also, being made hot: Put the Mixture into a Crucible, and melt with a strong Heat, that the Powder may run thin: Then pour the melted Matter into a melting Cone, and, when cold, knock it out.

Thus we shall have an uniform Mass, perfectly mixed through its whole Substance, by flowing in the Fire like Water, and now resembling Glass, being of an Ash-colour, a caustic Taste, and dissolving in the Air into a purple Liquor. Hence the fixed Alkali, the Sulphur, and the metallic Part of the Antimony, are, by the Action of the Fire, first minutely divided, and then again united into one uniform Substance.

We may now have a Notion of the Solution of Bodies by Menstruums, different from the Opinion of those Chymists and Philosophers, who have conceived, that a certain mechanical Acrimony, acting by an universal mechanical Power, was here the Cause of the Effect; who, when they found, that what dissolved one Body, would not dissolve a softer, have invented several Ways to remove the Difficulty, and apparent Contradictions. But we purpose to inquire into Nature by Experiments alone.

First, we are to consider the Nature of Fire; which we find to be an almost universal Solvent, as it liquifies almost all Bodies, if applied in a proper Proportion to them: For when we rise gradually from the Heat of the Body in Health, to the utmost Violence of the Focus of a burning Concave, we shall find few Bodies which do not resolve into their minutest Particles, with one or other of these Degrees: For though some Substances, as Brick, grow harder with a certain Degree of Heat, yet they vitrify with an intense Fire, as we see in melting Furnaces. And although a few Bodies do not melt in the strongest Fire hitherto known, yet, who can say they would not melt in a stronger? We must, therefore, acknowledge that the Power of Heat is very extensive in the Action of Menstruums.

Again, we are to observe, whether any mechanical, strong, or long-continued Attrition, be concerned in the Action of Menstruums; as this may often supply the Want of Fire, by attenuating, dividing, and rubbing the Parts of Bodies together; whence their fine Particles may act upon each other, and, at length, intimately unite. Thus, by means of M. Langelorse's Mill, Gold is said to have been ground into a potable Liquor; and M. Homberg informs us, that all Metals, even Gold itself, have been perfectly dissolved, and turned to Liquors, by long grinding them with pure Rain-water.

Next,

Next, we are to consider, that Bodies may be dissolved after undergoing the Operation of Fusion, Trituration, or feeling the joint Efficacy of both. For, when thus the Bodies are divided into minute Particles, and intimately mixed, there hence frequently arises an Opportunity for them to exert a repelling Force, which, before, was latent: For Instance,

Melt pure Lead in an Iron Ladle; then add to it thrice its Weight of pure Quicksilver, and you will thus have a white Amalgama, shining like Silver, capable of being kept for Years unaltered. If this Amalgama be ground in a Glass Mortar, with a Glass Pestle, the whole Mass soon turns perfectly black; and if Water be added to it, and ground with it, then poured off, it takes away the Blackness, and leaves the Amalgama pure again, and capable of being kept as before; but, if ground again, it grows black, and this after numerous Repetitions, as I have tried.

Whence it is plain, that the Mercury, here mixed with the Lead, does not repel this black Matter, either from itself, or from the Lead, unless this mechanical Triture be used; whereby the Mixture is attenuated, its Parts closer applied, and more intimately conjoined; whence there arises a Power in the Mercury upon the Lead, and of the Lead upon the Mercury; by which the Matter, foreign to both, is repelled and separated from them; which could scarce be done by another Operation. If the Amalgama, thus made, be several times distilled with Mercury, and cohobated; thus, also, the same black Matter may be obtained and washed from it, by Trituration with Water: Whence a repelling Force is thus again plainly introduced; by means of which the Separation is afterwards easily made.

The Parts both of the Solvent and Solvend, when fused or agitated by the Fire, or attenuated and mixed by Trituration, often manifest a new and wonderful Power of Attraction and Combination: Whence proceeds a great Variety of Bodies, which did not appear before; as we see in the preceding Instance of the Amalgamation of Lead; where, upon Triture, there arises a wonderful Union of the Mercurial metallic Particles, by this attractive Power, after the repelling had separated the heterogeneous Parts, which prevented the mutual Contact of the homogeneous Parts, by which means something unexpected is produced.

If, after the Solution is completed, the Menstruum be separated from the dissolved Body, the latter is generally changed into a Calx, or some new kind of Substance.

Hence almost all Menstruums, even the solid Kind, are, at the time of Action, in a fluid Form, except in Trituration; and that must be so exquisite as to render the Bodies nearly fluid.

In the following Experiment, all the above-mentioned Causes, Fire, Triture, repelling Power, attractive Power, and mechanical Force, concur at once in dry Menstruums, so as to produce all the Effects, as Attenuation, Concretion, Separation, and Change.

Take sixteen Ounces of Antimony, purified, as has been directed, by a simple Fusion: Reduce it to fine Powder, which we know consists of common Brimstone, intimately intermixed with the Mercurial Part of the Antimony: Then take twelve Ounces of *Rhenish* Tartar, and six Ounces of pure Nitre, both finely pulverized: Dry them all separately to the highest Degree, and mix them thoroughly in an Iron Mortar, and reserve this Powder for the following Use. Next take six Ounces of Tartar, and three of Nitre, both powder'd, and mix them well together. Put a clean Iron Ladle over a clear Fire, till it becomes almost ignited; then throw into it a small Portion of the Powder of Tartar and Nitre; the Mixture will immediately swell, boil, throw out small Sparks, and burn with a livid Flame, leaving behind a white and fixed alkaline Mass, intermixed with Spots of Green; and, if a fresh Quantity of the same Powder be thrown in, it produces the same Appearances.

Such are the Effects of the Mixture of an acid, vegetable Salt, with a saline, terrestrial one, upon touching the Fire. Fixed Alkali, well-mixed with Sulphur, instantly takes Flame in the Fire, and the Sulphur is immediately dissolved into a new Substance. Hence it appears, that if Tartar, Nitre, and Sulphur, be mixed, and thrown, by little at a time, into an ignited Ladle, a fixed Alkali immediately arises, which embraces the Sulphur, dissolves it, and converts it into a peculiar Substance. Hence we apprehend the Effect of applying the first-mentioned Mixture to the Fire in the following manner.

Set a large strong Crucible in the Fire, to heat gradually, and equably, without cracking; let it be capable of containing at least thrice the Quantity of Powder to be thrown in; cover it with a Tile; and, when thoroughly ignited, take off the Cover, and throw in two Drams of the Mixture; first well heated, with Care to prevent its taking Fire: Upon touching the Bottom of the Crucible, it will burst into Flame, Smoke, and Sparks; but grow quiet, when ignited. Throw in the same Quantity after the same manner, and do this by degrees, till all the Powder is used; at each time

covering the Crucible, after the Matter is thrown in, till the Struggle is over. When the Deflagration is finished, raise the Fire till the Matter flow like Water, which may be tried by stirring it with a Tobacco-pipe; keep it a while in this Heat; then pour it into a dry Brass Cone, first heated and greased on the Inside with Tallow; a Flame like Lightning immediately arises, upon pouring in the melted Mass, on account of the Tallow; and, by this Flame, the Matter is hindered from sticking to the Metal. When all is grown cold, invert the Cone, and, by striking it, bring out the Matter, which will appear divided in two Parts; the upper being brown, and weighing about fourteen Ounces, is named Scoriae; which are brittle, of a fiery Taste, and run in the Air to a red Liquor. These Scoriae consist of the fixed Alkali, made by the Tartar and Nitre; and of the Sulphur of the Antimony, melted into one Mass, by the Alkali in the Fire; and thus, being repelled from the metallic Part, it floats at the Top, while the Metal falls to the Bottom by its own Weight; which, therefore, constitutes the other Part, and is of a white, shining Colour, like Silver, being very ponderous, and on its upper Surface bearing the Figure of a Star: This Part would be truly metallic, but for its extreme Brittleness, which renders it pulverable.

This Experiment illustrates all that was above delivered, concerning the Action of dry Menstruums. 1. Mechanical Trituration renders three Kinds of Matter intimately miscible. 2. The Fire melts, moves, mixes, and unites them. 3. The Oil of the Tartar, and the Sulphur in the Antimony, taking Flame, fixed Alkali is immediately produced, and directly embraces the Sulphur of the Antimony; whence, by their attractive Force, the Alkali and the Sulphur unite into one Mass, that easily runs in the Fire. 4. At the same time there arises a repelling Power, between the metallic Part of the Antimony, and the alkaline Salt; which two can never be united in the Fire, but always in Fusion repel each other, and range themselves into different Strata, according to their Gravity. 4. The whole heated Mass increases the Strength of the Fire; whence the Motion and Concussion becomes the more violent, and throws off a copious Fume with Soot and Sparks, by which thirty-four Ounces of the Powder lose about sixteen Ounces in the Operation; the Regulus weighing only about two Ounces and three Quarters.

Let us now consider the Actions of Solvents, so far as they are explicable upon pure mechanical Principles. There is no known Body, whose Parts are so tenaciously combin'd, as not to be separated by a mere mechanical Force alone; and thus even the Diamond may be cut into any Shape, and exquisitely polished.

Water by continual falling upon Metal or Stones dissolves them; soft Leather long rub'd on the hardest Gems, Metals, or Glass, gives them a Polish; and Wheels of Wood kept constantly turning will wear away any Body applied to their Surface. Thus, the softest Bodies will at length resolve the most rigid into invisible Particles.

The least and ultimate Particles of any Menstruum, to us invisible, may possibly be hard, and almost unchangeable, tho' in any sensible Bulk they appear ever so soft to our Senses. Thus, the component Particles of Fire exceed all others in Hardness, Smallness, Mobility, and Immutability. None have observed any Change in an ultimate Particle of true Air; tho' the Air by its Force produces many Changes upon other Bodies. Water and Earth consist of such hard Parts, as not to be changed by Weight, Concussion, or Pressure. So Alcohol receives no Change in its Particles, after ever so many Digestions, Distillations, and Commixtures.

But in every mere mechanical Dissolution there occurs this Difficulty, that the Particles of the Menstruum, applied to the Surface of the Solvend, easily recoil, so as not to act powerfully. But we are to consider, that the Weight of both the Bodies, and, also that of the Atmosphere, may have a great Effect. Whence it is certain, that Menstruums, which act simply by a bare mechanical Power, dissolve but weakly, unless some other Power be added: On the other hand, we know, that a strong external Compressure of a Fluid to a Solid greatly increases the dissolving Power, *ceteris paribus*. Thus, Bones are little changed by long boiling with Water in an open Vessel; but soon grow soft, and dissolve, in *Papin's* Digestor; whence the Parts of the Water are strongly compressed, and driven or ground against the Subject. Thus, the first mechanical Manner of acting appears to be by the Attrition of one Body upon the external Surface of the other.

But when a Solvent also dissolves the inner Substance by Attrition, its Particles seem to insinuate themselves into the Pores of the Solvend, and thus to act upon the internal Surface in the same manner, as we have explained of the external Surface. So that here the principal Difficulty is to understand, by what means the Solvent enters the Pores of the Solvend.

The first Condition requisite to this Solution, is a proportional Magnitude between the smallest Pores of the Solvend, and the Particles of the Solvent. No Dissolution ensues, when the

Parts

Parts of the Menstruum form Concretions, incapable of entering the Pores of the Solvend; but, if these Concretions are dissolved by Water into finer Particles, they may enter the Pores. Thus, put an Ounce of highly rectified Oil of Vitriol into a Glass Body; place the Glass in Water set over the Fire to boil; then put into the Oil of Vitriol five Drams of clean Iron Filings, and shake the Glass; upon which a great Rarefaction, without Fume or Ebullition, will instantly arise; the Matter in the mean time remaining swelled, but undissolved, and of a grey Colour. To another Ounce of Oil of Vitriol, heated in the same manner, pour three Ounces of boiling Water; throw into this diluted Oil of Vitriol, five Drams of Iron Filings; upon which a violent Ebullition, Effervescence, and Fume, will arise, with a Garlick-smell; and the whole Body of the Iron be presently dissolved into a green Liquor.

Farther; we should consider the Figure of the Particles of the Solvent; for mechanical Actions greatly depend upon the Figure of the acting Body. Thus any Body whatever, by the Variation of its Figure only, may acquire a Power for performing many things which it could not perform before: For instance, an Ounce of Steel may be formed into a Sphere, a Cube, a Knife, a File, a Saw, &c. all which answer different Purposes, on account of their Figure. In like manner, the same Body may act differently as a Solvent, according to the Figure of its Parts, provided the Pores of the Solvend are able to receive them. Hence it may happen, that the reciprocal Power between a Solvent, and a Solvend, shall be sometimes abolished, or perfectly changed, when the Figure of the Surface of either, or both, is changed. This must be the Case, unless we imagine the dissolving Particles of Bodies to be immutable; which, however, is not probable, because the ultimate Particles of Bodies seem not to be the same with their dissolving Particles; and it must be allowed, that, in many Instances, the dissolving Particles themselves seem to be changed. But that an efficacious Fitness for Action may arise in Bodies on account of their Figure, has been elegantly illustrated by Mr. Boyle, from the Example of a Lock, and its Key. That extraordinary Effects may be ascribed to the Form of a Body, we see in a Bell; which being struck by the Clapper, all the circular Sections of the Bell are changed into innumerable Ellipses, with a quick reciprocal Motion; thus occasioning Undulations in the Air, to a great Distance, propagating tremulous Motions, Shudderings, and Sounds; hence producing Changes in the Bodies of Animals, Vegetables, and Fossils; all which depend upon the bare Configuration of the Bell.

The following Experiment is supposed of that kind, wherein the Figure of the Solvent is changed. To an Ounce of well rectified Oil of Vitriol, add, drop by drop, six Ounces of pure Alcohol, made without Alkali; and shake the containing Vessel every time; digest the Mixture for a considerable time, in a tall well-clos'd Glass; then carefully distil with Degrees of Fire, till the Matter begins to grow black; upon which change the Receiver, and continue a gentle Fire: Thus a sulphureous suffocating Phlegm will come over, and, at the same time, a dulcified, volatile, sweet-smelling Oil of Vitriol, about six Drams in Weight, to be kept in a stop'd Glass. The Liquor, thus obtained, produces very different Effects upon Iron, from those wrought upon it by common Oil of Vitriol. This Change may be ascribed to the Combination of the Alcohol, to Distillation, or to both.

A third Cause of merely mechanical Solutions arises from considering, that the least Corpuscles of a Menstruum, having the requisite Inflexibility, may insinuate themselves partially into the Pores of the Solvend, which will be filled with Points sticking out like Bristles. When, therefore, the Particles of such a Menstruum are put in Motion, they will strike with a different Direction on all Sides upon the sticking Particles, which will therefore act as Wedges, to shake and split the Solvend. This is the more probable, if we reflect, that, in such Solutions, the uniformly smooth Surface of the Solvend is rendered rough and unequal. In mechanical Solutions this appears to be the principal Cause.

Lastly, the fourth Cause of mechanical Solution is Fire, which principally shakes, agitates, applies, and re-applies, the Particles of every Solvent, having the three preceding Causes, which, without Fire, could act no more than a Wedge not driven by an external Force. Fire also excites a Motion, Concussion, and Attrition, in the Air here pressed upon, and applied by the Weight of the Atmosphere against the Surface of the Menstruum. In every Solution, therefore, all these mechanical Powers may co-operate; but these, alone without the Intervention of other Causes, cannot perform the whole Business. We shall therefore proceed to consider those Solvents, which act by a particular Virtue, and not by any general Property of Body; which are so numerous, that we are obliged to reduce them into Classes, under general Titles.

OF AQUEOUS MENSTRUUMS.

The first Class of fluid Menstruums we make to consist of Water, and aqueous Liquors. But Water, in the Form of Ice, is a Solid, which dissolves into a Liquor, upon being mixed with dry or fluid Salts, of the fixed and volatile alkaline Kind, with

fixed or volatile acid Salts, compound Salts, and the fermented Spirits of Vegetables; and this even in the highest Degree of Cold. As a fluid Menstruum, it begins to act in the next Degree below that of Freezing, or in an Heat of thirty-two Degrees by Fahrenheit's Thermometer. The Heat of Water unconfined may in our Climate be increased by Boiling from thirty-two Degrees to two hundred and fourteen; but, as it heats the more, by a greater Weight of the Atmosphere, its Heat may be prodigiously increased in the Bowels of the Earth; so as at great Depths to have, perhaps, an higher dissolving Power upon many Bodies, than any other known Menstruum.

In many Solutions, where Water is the Menstruum, the dissolving Power increases and diminishes with the Degrees of Heat. Thus, Water of thirty-three degrees hot dissolves a certain Proportion of Sea-salt, which prevents the Water from turning to Ice, by the same Degree of Cold, which would freeze cold Water; and this probably happens by the Interposition of the Salt, by which the Surfaces of the Particles of the Water are prevented from coming into mutual Contact. But, when the Cold is increased far above the Degree which freezes pure Water, then the salt Water begins to contract, and the Salt to collect at the Bottom of the Vessel in little Crystals; and as the Cold gradually increases, this Water gradually deposits more Salt, till at length the Water, nearly deprived of all its Salt, turns to Ice. During the whole Increase of the Cold, more and more Salt is continually separated from the Water; and when the Ice is thaw'd, all the deposited Salt will again be taken up by the Water. On the other hand, if Water, thirty-three Degrees hot, has dissolved as much Salt as it could in that Degree, and be afterwards gradually heated further, to the Degree of Boiling; and, upon the Increase of every Degree, a little more Salt be added; this Salt will be dissolved every time, till the Liquor boils, after which it will dissolve no more, though boiled for a long time.

Hence we may draw the following Conclusions: 1. That the Parts of the Salt and Water are not here changed, but so conjoined, that the Water now touches the Parts of the Salt, as the Particles of the Salt or Water before touched one another. This Species of Solution is a mere Permixture. 2. That the Increase of Heat increases the Power of Permixture, so long as the Water can receive an higher Degree of Heat. 3. That aqueous Menstruums, saturated with Salt, grow turbid in the Cold, and deposit saline Crystals; but, when heated, grow transparent again, and dissolve the Salt they had deposited. 4. Boiling Water, saturated with Salt, is heavier than Water; whence Brine, in a boiling State, proves hotter by the Thermometer, than pure boiling Water, and requires a greater Heat to boil. 5. The solvent Power of Water does not depend upon the Water alone, but requires the Assistance of Fire to render the Solution perfect. 6. These Discoveries, applied to the animal Juices, especially of Mankind, have an extraordinary Use, as Water is the principal and most copious of all the Liquors contained in the healthy human Body; so that in this the other Principles of all the animal Fluids are dissolved, mix'd, combin'd, and kept fluid. As this Water, therefore, is so liable to change from Heat and Cold, it may wonderfully change the Juices. Thus, how greatly is Blood, drawn out of the Veins, changed by Cold from what it was in the Body! And the Urine of an healthy Person, in a cold Season, soon deposits a gross Sediment; which may again be taken up, by warming the containing Vessel. From the Premises one might be tempted to say, that the solvent Power of Water almost always increases in proportion to the Heat applied to the Degree of boiling.

But it is dangerous to please the Mind with general Truths in Physics, or to extend our Consequences beyond Experiments: For in the present Case there are numerous Experiments, shewing that the solvent Power of Water decreases, as the Degrees of Heat increase. Thus Balls formed of Flour, mixed with Water, resolve in cold or warm Water, but harden in boiling Water. So the White of Eggs mixes intimately with warm Water, but coagulates by boiling; and this Hardening begins with a certain Degree of Heat, and increases as the Fire strengthens; though, till this certain Degree be arrived at, the increasing Heat serves to dilute the Subject the better. Understand the same of Blood.

Hence we should range into Classes those Bodies which are always dissolved by Water, in all the Degrees of Heat. 1. All the known neutral Salts. 2. All the known, pure, volatile, alkaline Salts, obtained from Animals or Vegetables by Putrefaction, or Distillation. 3. All the fixed alkaline Salts obtained from Vegetables by Calcination. 4. All Kinds of Acids naturally found in Vegetables, and in all the acid Salts; all Kinds of native, fossil, acid Salts, with all the vegetable acid Juices, which afford a Spirit or Vinegar by Fermentation; the Acids obtained from Woods by Distillation, distilled Vinegar, Oil of Sulphur by the Bell, Oil of Vitriol, Spirit of Alum, Spirit of Nitre, Spirit of Sea-salt, &c. 5. Artificial compound Salts, by the Combination of Acids and Alkalies, so as to render them neutral; all which easily dissolve in Water; but Tartar of Vitriol with the greatest Difficulty. 6. Salts of the Borax kind, which are difficult

difficult to dissolve. 7. The native Salts of Plants, which are artificially procured, which easily dissolve, and run spontaneously in the Air. 8. The vegetable Salts, called Tartar, will not dissolve in Wine, and require twenty times their own Quantity of Water to dissolve them by boiling. It is difficult to obtain pure Acids in a dry Form, and not without the highest Degree of Cold; but fixed Alkali, taken in a melted State from the Fire, presently attracts the Moisture of the Air. Hence it is plain, that these Salts have a latent Power of attracting Moisture, and, consequently, that Water exerts two distinct Actions, in dissolving these Salts, the one attractive, and the other solutive; both which together constitute the Power of aqueous Menstruums. We must also, observe, that there are some Salts highly attractive of Water, which, upon their Combination, turn into a third Substance not easily dissolvable in Water. Thus, Oil of Vitriol attracts Water strongly; and fixed Alkali, with Difficulty, lets go the Water it had attracted; but, if the Oil of Vitriol, and fixed Alkali, be mixed in such a Proportion as to form a neutral Salt, this Salt will not easily dissolve in Water. But, when Water is saturated with one Salt, it will still dissolve another, without increasing the Degree of Heat: Thus, a saturated Solution of Nitre will dissolve a considerable Proportion of Sea-salt; and the saturated Solution of these two will dissolve a considerable Proportion of Sal Ammoniac.

Water, as a Menstruum, dissolves all those Bodies which are called saline, and contain some of the above-mentioned Salts, as a principal Part in their Composition. Such are, 1. The native Soaps of Vegetables; as all the ripe Juices of Summer Fruits, being a Mixture of Water, Oil, Salt, and Spirit. 2. Certain concreted Juices perfected in a particular Part of the Plant, as the Pulp of Cassia, Manna, Sugar, Gums, &c. which are Soaps containing a copious Oil, mixed with Salt. 3. The more fluid Juices of Vegetables, circulating thro' the Vessels, and whole Structure, of the Plant; as the Liquors afforded by the Vine, the Walnut, and the Birch-tree, tapped in the Spring; which are all vegetable Soaps, diluted in a large Proportion of Water. 4. All the known animal Juices, except Fat, though none more easily than perfect Bile. 5. All the Soaps made of expressed vegetable Oils, and fixed vegetable Alkali, mixed, by means of boiling Water, with the fiery Part of Quick-lime, and brought, by boiling, into a hard Mass. To these may be added all the Soaps prepared from distilled vegetable Oils, united with the sharpest, driest, fiery Alkali, heated and strengthened by Quick-lime, and thus prepared to receive the Oil by pouring it thereon, and exposing the Whole to the open Air at some Depth under Ground. To these we add, those Soaps obtained by mixing pure distilled Oils with a pure volatile alkaline Salt, without the Interposition of any foreign Water, but by a slow, careful, repeated Sublimation; whence admirable Remedies are procurable. But the most subtle Soaps are obtained by uniting the purest Alcohol with the purest volatile alkaline Salt, which produce a Substance in the Form of Snow. We may still add another Soap, prepared by perfectly uniting Salt of Tartar with Alcohol, by a secret Treatment. It is here remarkable, that though Oils alone will not unite with Water; yet, when joined with Salts, they presently dissolve therein, whilst the Salts alone are attractive both of Water and Oil. 6. Vitriols, especially the acid Kind, also, dissolve in Water, whilst they retain their true transparent Form; but when the Water is exhale by a gentle Heat, so as to render their Crystals opaque, the metallic Parts are thereby less disposed to dissolve in Water; and, if, highly dried, they will not dissolve at all: Whence Water dissolves Metals, only on account of the Acid adhering to the Surfaces of their Particles; and, therefore, quits the Metals so dissolved, as soon as the Acid is removed. Thus, Metals dissolved in Acids, then largely diluted with Water, become potable, so as to be received into the Body, mix with the Fluids, act upon the Solids, and produce considerable Effects; though this Power lasts no longer, than while they remain dissolved; and, their Solution depending chiefly on the Acid, if that be removed, the Metal remains no longer potable, but turns to a Calx.

What is here said of the Action of an Acid, with respect to Water, holds true, also, of those Metals which are dissolved by alkaline Salts. Thus, Copper dissolved in strong Spirit of Sal Ammoniac, so as to afford a fine blue Tincture, if this Tincture be deprived of its Salt, it is thereby greatly changed, and lets fall a dusky Powder. The same holds, also, of metallic Solutions made with compound Salts. Thus, Sal Ammoniac, or Sea-salt, may dissolve Metals in a certain manner, so that they may be diluted with Water, and thus produce great Effects upon the Body; while their Action principally depends upon their being dissolvable in Water. And yet this does not hold of all Metals; for though Butter of Antimony be highly acid; yet, instead of diluting with Water, it immediately, upon the Affusion thereof, lets fall the Antimony in a white Calx; which, being fused by a strong Fire, affords a fine Regulus of Antimony, incapable of being dissolved in Water.

If pure earthy Bodies be first dissolved in Acids, they may afterwards be perfectly diluted with Water, so as to escape the Cognizance of the Sensor, and leave the whole Body of the Li-

quor limpid. Hence we see how unsafe it is to infer, that a Liquor is free from Earth, because it appears pellucid.

But Alkalies, when intimately united with Earth, as in Glass, cannot be afterwards diluted with Water; so great is the Difference between the Solution of the Earth by one kind of Salt and another. The subtil, volatile, alkaline Salts of Animals, intimately united with Earth, form a Mass undissolvable in boiling Water; for the Stones generated in Animals I take to consist of these Principles and Oil; and, in whatever Part they are generated, they have a Power of attracting to themselves a familiar Matter, from those animal Juices which approach nearest to Putrefaction, as the Bile and Urine: These Juices containing Salts nearly alkaline, these Salts unite to themselves the fine Earth, wore off from the Parts of the Body; thus laying the Foundation of new Stones, or enlarging the old, and producing terrible Disorders.

Hence we may, perhaps, deduce the Reason, why the Author of Nature has made nearly all the Aliments of Animals incline to Acidity; for the acid Salts, on this account, predominating in the Stomach, easier dispose such Aliments to dissolve, whose firmer Parts cohere principally by means of Earth; whence they would otherwise much more difficultly be dissolved into fluid Chyle. But when afterwards a Matter is to be formed of this Chyle, fit to bind the Solids together, the Tendency to Acidity, which was necessary in the Chyle, is changed, and an alkaline Tendency of the Salts introduced; which, by binding the earthy Particles, forms a Structure indissolvable in Water. At least we know, that Bones remain solid, if steeped in Alkalies; but grow soft and flexible, if detained in Acids. And, doubtless, when the Power of changing Acescents into Alkalies is wanting in the Body, the Bones, Cartilages, Teeth, and Ligaments, become soft, weak, loose, and flexible, as we see in the Rickets. Hence Acids used in the way of Dentifrice, with Design to render the Teeth white and glossy, may soon render the Person melancholy, nervous, or paralytic. But if fixed Alkalies, or alkaline Solutions, well diluted with Water, be used for this Purpose, the earthy Part of the Teeth will remain unhurt.

Sulphurs do not of themselves dissolve in Water; but, when intimately mix'd with Alkalies, they readily unite with it; whence we may easily understand the medicinal Virtues of sulphureous mineral Waters. Volatile alkaline Salts will, also, dissolve Sulphurs, and render them miscible with Water; so that we see, Water, by the Assistance of Alkalies, becomes an excellent Solvent of Sulphurs. And as this is applicable even to the Sulphurs concealed in Metals and Semimetals, hence we have a way of producing to View such Sulphurs as before lay conceal'd; by which means slight Productions have been sold at high Prices, as great Secrets, and even Princes themselves have been imposed upon. I have seen a Liquor prepared from Antimony, sold under the specious Title of a Panacea; a few Drops of which, taken in Wine, were said to cure Diseases speedily, without any sensible Effect; and indeed they did Service in some Distempers. Upon Examination, I easily discovered this Liquor was prepared by taking levigated Antimony, and putting twice its Quantity of Oil of Tartar *per Deliquium* to it, and digesting them in a Sand-heat together; whereby the liquid Alkali, dissolving the Sulphur of the Antimony, thus extracts a red Tincture of a fiery Taste, and an alkaline, heating, aperitive, diuretic, and diaphoretic Virtue. But as good a Medicine may presently be procured, by boiling common Sulphur in an alkaline Lixivium; as the Sulphur of Antimony does not differ from common Brimstone, and as the Alkali does not dissolve the metallic Part of the Antimony. In like manner, by digesting powdered Antimony with the alkaline Spirit of Sal Ammoniac, a golden sulphureous Tincture may be obtained; and as good a one from common Sulphur, as Mr. Boyle has shewn.

Though Bodies of a glutinous, viscous, or hard Substance remain untouched by Water, yet they may be rendered perfectly soluble in it, by first uniting them intimately with fixed or volatile Alkalies. Thus, we find putrefied Urine, Salt of Tartar, Soap, Gall, Honey, Sugar, Yolks of Eggs, and the like, being mixed with these tenacious Bodies, render them commodiously dissolvable in Water, which hence generally acquires a deterging Power. Oils, Balsams, Rosins, Gums, and the like, by this Treatment, become miscible with Water.

Having thus explained the dissolving Power of Water, I shall only add a few remarkable Particulars: 1. Hail collected in the Summer-time, after Thunder, consequent upon a Series of hot Weather, being kept in clean Vessels, has a different Effect from all other Water; perhaps on account of being purer, carried higher into the Atmosphere, and froze there before it fell lower. 2. Next to this in Purity, we reckon Snow-water, collected in a cold Winter, in a still Air, and an high sandy desert Place, and from the upper Part of a deep Drift. 3. Dew, being a Mixture of aqueous, spirituous, saline, and unctuous Vapours, and of all sorts of dry Exhalations, differs greatly from all other aqueous Menstruums; so that the Effects of Dew can scarce be determined, or brought under one Class: Whence it is no Wonder, that many have thought the Matter of the universal Salt was contained therein; and that a saline Substance, which they call the congealed Spirit of the Universe, might be extracted

extracted from it. But it is time to proceed to the other kind of Menstruums; only first observing, that Water, floating in the Air, may often act as a Menstruum, and the Action be falsely ascribed to the Power of the Air.

OF OILS, AND OILY MENSTRUUMS.

Oil, considered as a Menstruum, is a fluid Juice, (or capable of being rendered fluid, with a small Degree of Heat) unctuous, burning in the Fire, and immiscible with Water. Alcohol is excluded from the Class of Oils, by its being easily miscible with Water, while in other Properties it has a perfect Resemblance to them. All Oils are either native, or obtained by Art. Native Oils are every-where found in Fossils, Vegetables and Animals; and these Oils are changed by Art, upon boiling unctuous Bodies in Water, so as to melt the Fat, and extract it from its Lodgment: Whence by its Lightness it floats upon the Surface of the Water, and may be skimmed off without much changing its Nature. It may, also, be obtained by Expression; when, if too much Heat be not used in the pressing, the Oil is but little changed. Sometimes a close Fire is used for scorching the Subject, and melting away the Oil; as in the obtaining Pitch and Tar from Fir. Lastly, Oils are obtained by Distillation either *per Ascensum*, or *per Descensum*.

Scarce any of the distilled Oils lose their Fluidity in the greatest natural Cold; whereas most of the Oils by Expression congeal with strong Cold, as we see in Olive-oil and Rape-oil; while others, as Linseed-oil, do not freeze in the keenest Frost. I have never been able to discover, whereon this Difference in Oils depends. Their dissolving Power is not exerted, unless they be in a fluid Form; and, as some of them freeze sooner than Water, their dissolving Power is less durable, with respect to Cold, than that of Water; but those which remain fluid in all the Degrees of natural Cold, constantly retain their dissolving Power: Whence it appears not easy to fix a common Point of Heat in Nature, at which the dissolving Power of Oils begins, though it may be nearly limited in any one Species of Oil, after it has been once accurately observed. And here it may appear surprising, that though Linseed-oil remains fluid in the severest Frost, yet, upon Examination, it is then no hotter than Ice, or any other congealed Oil.

When Oil is gradually heated, it does not boil, like Water, with two hundred and twelve Degrees of Heat, but grows constantly hotter, without boiling, till the Heat rises to six hundred Degrees: Whence we see, why boiling Oil is so much hotter, and more scalding, than boiling Water. But the highest and most subtle Oils boil the soonest; whereas others receive more Fire before they will boil. Hence we see the Difficulty there is to determine the dissolving Power of Oil; because in Linseed-oil, for Instance, this Power begins with the greatest Degree of natural Cold, whence it increases to six hundred Degrees, and in each Degree of Increase constantly acquires a new Power of acting, whether it be upon the same Body in different Degrees of Heat, or upon different Bodies in the same or different Degrees: In both which respects the Scale is infinite.

It may be shewn by Experiments, that Alcohol, though it be an attenuated inflammable Oil, boils much sooner than Water; and that Oil of Turpentine, tho' much lighter than Water, and considerably thin, and inflammable, does not boil when the Water does; any more than Oil-olive. Whence neither Inflammability, nor Levity, nor Volatility, is here the Cause; since Oil of Turpentine is so volatile, as to rise with boiling Water on Distillation.

To discover the Degree of Heat in Oil of Turpentine before it boils, put some Linseed-oil into a Copper Vessel, and set it upon a naked Fire; place a Mercurial Thermometer therein, along with the Phial of Oil of Turpentine; which will be found to boil much sooner than the Linseed-oil; while the Thermometer shews the Degree of Heat. But as these Oils, by boiling, throw off their more volatile Parts, and leave the Remainder thicker, they now require more Heat, every Moment, to keep them boiling. Whence Physicians need not wonder, that these Oils, rendered thick by boiling, heat the Body to violently.

As Oil will receive almost thrice as much Fire as Water, we may hence easily understand, that the dissolving Power of Oil, which Power in Menstruums depends upon Fire, must be much greater in Oil than in Water: For, since many Oils remain fluid in the first Degree of the Thermometer, whereas Water freezes at about the thirty-third; and since the Scale of Heat in Water, while it remains fluid, is but 180 Degrees (its freezing Point being 33, and its boiling Heat 213); and since the Scale of Heat in Linseed-oil is at least up to 600; it follows, that the Power of Heat in this Oil is, to the Power of Heat in Water, as ten to three. And considering that many Oils, inspissated by Boiling, may thus receive much more Fire, hence the Scale of the Power of Heat may be still farther extended in such Oils.

The Bodies of Animals, and of Vegetables, are entirely kept from dissipating, fermenting, putrefying, and changing, by be-

ing carefully plunged in Oil; and this for ever so long a time, even in the hottest Climates. When Bodies are covered with Oil, Insects also are prevented from preying upon and destroying them. And after these Bodies have remain'd cover'd with Oil, for a proper Season, so as to be thoroughly impregnated therewith, they seem to become almost incorruptible; as appears from Cases treated in this Manner; upon which Discovery the Art of Embalming principally depends.

If Bodies are suddenly plunged into boiling Oil, they presently acquire an hard and almost stony Coat, of a yellow, red, or black Colour, like Bodies scorched by a naked Fire; while the inner Substance, being agitated by the great Heat of the boiling Oil, is wonderfully changed, digested, and ripened; till at length the Whole is consolidated, and rendered durable, for great Lengths of Time. But when these Bodies abound with aqueous Juices, as in Flesh or Fish dried only on the Surface, these Juices, contained within the external Crust, being thus more than boiled, become surprisingly soft, roscid, digestible, and nutrimental. Food, thus treated, may be long preserved; as all the Principles of Bodies so prepared, being intimately united, perfect one another, and turn to a Substance, that is well defended from the Action of external Causes.

Hence we may draw some unexpected Consequences: 1. The Degrees of Heat, received by Bodies from Fire, are not in proportion to the Densities of the heated Bodies. 2. Yet in the same Bodies, gradually rendered more dense, more Fire may be communicated in proportion to the Increase of their Density. 3. The Power of receiving a greater Degree of Heat does not depend upon the Bodies being combustible in the Fire. Thus, Alcohol, being brought to boil, does not receive more Fire or Heat, though nothing in Nature is more combustible; nor does any known Liquor receive less Fire: Whence we see, it is in vain to seek after general Properties in Chymistry; but we are to discover the particular Properties of Bodies by particular Experiments. 4. Some Metals may be intimately dissolved in some Oils by boiling; so as thence to form a Mixture, not easily resolved into its Principles; and by these means many noble Discoveries have been made for Mechanical and Medicinal Purposes.

Thus, put half an Ounce of red Lead into a long-neck'd Phial, and pour into it an Ounce and an half of Oil-olive, and shake them well together; heat the Glass carefully; then set it over the Fire, so as almost to touch the Coals, and bring the Oil to boil; upon which the red Lead will dissolve, and mix and unite into a Mass therewith, when the Oil has acquired a great Degree of Heat. Thus, a metallic Balsam, or an excellent Cement for Water-works, may be prepared. The same Experiment will succeed, if made with granulated Lead; the Lead first melting at the Bottom, even before the Oil begins to boil, or fume: Whence we see, that Lead is more easily melted than Glass; and that Oil cannot be made to dissolve Glass, with any Degree of Heat the Oil will receive. Hence we see the Reason why melted Lead scalds less than boiling Oil, and may be nimbly handled, if the Skin be first rubbed over with dry Chalk. The same Experiment, also, succeeds with Tin, and a Mixture of Tin and Lead; the Solution of which together is quicker performed, than of either alone. Hence again we may draw further Consequences; as, 1. That Oils receive, and long retain, much Fire, before they boil. 2. That no Fluid in Nature receives more Fire than Oil; for all Lixiviums, and Oil of Vitriol itself, boil sooner, and prove less hot upon boiling; even Quicksilver itself boils rather sooner, or nearly about the same time. 3. That a great Force of Fire must act upon Oils, before they rise in Vapour. 4. That Oils communicate the same Force of Fire they receive, to the Vessels in which they are boiled: Whence, though Water may be boiled in Vessels of Tin or Lead, yet Oil cannot. 5. That the same Force of Fire received by the Oils is communicated to the Metals contained therein. 6. That we cannot easily find a Way of communicating more Fire to Oil, than by boiling it; for if one would endeavour to make Oil collect more Fire, we must find a Way of compressing the Oil in the containing Vessel with a greater Weight, than that of the Atmosphere, whereby Heat might be increased in Proportion: Whence it appears, that Oil, compressed by the increased Weight of the Atmosphere at great Depths in the Earth, may acquire a most violent Heat, if it should there meet with a strong Fire; when, if Water should happen to touch the Oil in this State, it might occasion most terrible Earthquakes; which may possibly be one Physical Cause of Vulcanos. 7. Oils, when they remain fluid, will not permit more Heat to be communicated to the containing Vessel, than to themselves; and, therefore, prevent all Vessels from melting, which will not fuse with less than 600 Degrees of Heat. 8. Hence the Author of Nature has set a Limit to Fire; which Limit checks its Power upon the most inflammable Matter we know.

In order to explain the dissolving Power of Oils, it must be remembered, every expressed, crude, vegetable Oil constantly contains Water, as may appear upon boiling expressed Oil of Almonds in chymical Glasses; whereby an aqueous Vapour is raised, and, condensing in the Neck of the Vessel, forms visible Drops,

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Drops, which, falling back upon the boiling Oil, occasion great Commotion and Crackling, which may in some Degree affect the manner of Solution. Hence, after this Water is discharg'd by long boiling, the Property of Oil, as a Menstruum, is changed.

Besides this Water, Oils contain a certain subtil latent Salt, suppos'd to be very penetrating, which is generally acid and volatile, as in some of them is manifest by the Smell. These Salts appear in the Form of acid Spirits, collecting themselves like Water, and separating from the Oil, so as not to be again easily mixed therewith; though it is not easy to free the Oil perfectly from its acid Spirit, which continues to rise through the whole Distillation, but in the greatest Quantity at first.

Chymists, therefore, should carefully distinguish whether the dissolving Power of Oils be not owing to the Water and Acid they contain; otherwise great Errors might arise: For we see in Painting, that Colours, dissolved in Oil which has been boil'd, unite and sink in better, dry quicker, and remain more beautiful, than when mixed up with crude Oil. Thus, also, the particular Power, which the softest Oils are suppos'd to have of dissolving Metals in a gentle Heat, seems principally to proceed from the latent Acid, and not from the oily Part; it having been observed, that Oil-olive, when mixed with very fine Filings of Iron, Copper, or Lead, and long digested together, a Part of the Metal is thus taken up by the Oil, so as to give it a new Colour, and extraordinary Properties. Hence the Power of Oil, as a Solvent, has been extended too far; for this Power does not remain in Oils, after they have been long boiled, and are deprived of their latent Acid. Hence, the Polishers of Brass and Copper have observed, that their Work cannot be well preserved from Rust and Tarnish, by rubbing it over with crude Oil; but much better by besmearing it with boiled Oil, especially if a little Ceruss, or black Lead, be added in the boiling, so as perfectly to imbibe this Acid. Dr. *Hoffman* has shewn by Experiment, that even distilled Oils contain an Acid.

Those Oils which are obtained by Distillation from alkaline or putrefied, vegetable or animal Substances, abound with volatile alkaline Salts; which may be copiously separated from them, by a gentle Fire, in a white solid Form: Whenever, therefore, we would explain the Properties of Oils, we should carefully separate them from all foreign Salts, and examine them pure; otherwise we can never form a right Judgment of their Virtues.

Oils obtained by Distillation with or without Water by the Retort, constantly leave Earth behind them, upon being redistilled to Driness in close Vessels, and gradually become more subtil, less adhesive, more fluid and transparent; and, when redistilled fourteen times, or more, they each time become different Oils, and different Menstruums; so as, at length, to become penetrating anodyne Medicines, excellent in many obstinate Distempers. Whence the elder *Helmont* imagined, that the Oil of human Blood, thus distilled several times with Spirit of Salt, till no Exces were left behind, would prove a diaphoretic Medicine, capable of dissolving, like a Menstruum, all preternatural and other mortal Obstructions and Coagulations in the Body. The excellent Dr. *Hoffman* assures us, he has prepared Oils in this manner, and gives an high Commendation of their medicinal Virtue; and another less faithful Writer affirms, that the universal Remedy may be obtained by means of an Oil prepared in this manner. On this Subject, *Raymond Lully*, and *Isaac Hollandus*, deserve to be consulted.

All kinds of Oils have a certain subtil, volatile Substance adhering to them, and separable from them, called their presiding Spirit; which is a moveable odorous high-tasted thing, produc'd by Fire, and the true Cause of very great Effects. This Spirit, being innate in Oils, detained and confined in them, communicates thereto a singular efficacious Virtue, no-where else to be found. This Spirit exhales from many Oils spontaneously with a gentle Heat; mixes with the Air; and, when it entirely quits them, leaves them insipid and unactive, so as scarce to be distinguishable from one another. Their dissolving Power seems principally to proceed from this Circumstance, that Oils are dispos'd to receive much Fire into themselves, and apply it to other Bodies.

1. Most Oils mix with other Oils, though some of them not easily; as in the Distillation of Turpentine and Amber; where the Oils, raised by different Degrees of Fire, are different in Weight, Consistence, Colour, and Situation, so as not readily to unite with each other. 2. True resinous Bodies melt and dissolve in Oils. 3. So do many of the Gums, such as have a Mixture of Resin. 4. So, likewise, do condensed Oils or Balsams. 5. So do Sulphurs, both the natural and artificial, and both the liquid and solid; and this, tho' concealed in other Bodies. Thus, Antimony, finely powdered, or sublimed into Flowers, being boiled with Oil, soon affords a thick red Balsam of Antimony, tho' it proceeds only from the Sulphur of the Antimony, dissolved by the Oil, which leaves the metallic Part untouched; and the same holds, also, of the other Semimetals, abounding with Sulphur.

OF ALCOHOL, OR SPIRITUOUS MENSTRUUMS, PROPERLY SO CALLED.

Eminent Chymists have asserted, that Alcohols could not be united with a pure fixed Alkali; and this is no Wonder, as the

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Effect may be prevented by the least aqueous Moisture in either the Salt, or the Alcohol: But, if pure Alcohol be applied to perfectly dry Salt of Tartar, a rich Tincture is immediately extracted, and a true Combination made. Hence we cannot be too inquisitive into the Nature of this Liquor, which, on account of its Excellence, we esteem the first among spirituous Menstruums.

Alcohol is prepared from Vegetables alone, by bare Fermentation, and repeated Distillation. It is best obtained from Wine, Mead, or Beer; for, though these Liquors may quench Fire, yet the Spirit obtained from them by Distillation is inflammable; and, when all Water is perfectly separated from this Spirit, we obtain pure and perfect Alcohol. Oil, also, is called Alcohol, when it mixes with Water, and is totally inflammable. Animal and vegetable Substances, when perfectly putrefied, may have their Oils so subtilized and volatilized, as to be inflammable in the open Air; and, by repeated Distillation, such Oils may be so attenuated, as almost to mix with Water. When, therefore, the dissolving Power of these Spirits is to be determined, we must first regard what kind of Spirit it is; for common Brandy contains much Water, a liquid, acid, volatile Salt, a disagreeable Oil, and Alcohol; rectified Spirit of Wine contains less Water, less of the nauseous Oil, a volatile acid Spirit, as before, and mere Alcohol. Perfect Alcohol, prepared without Addition, contains neither Water, acid nor gross Oil; and, if once gently drawn off from fixed Alkali by Distillation, it becomes highly purified; and, as there are these Differences in this Spirit, we are carefully to regard them.

1. Perfectly pure Alcohol dissolves Water, and all aqueous Liquors. 2. Consequently, Wines of all kinds. 3. It dissolves all spirituous fermenting Acids, as the Tribe of Vinegars. 4. All pure Oils. 5. All true vegetable Resins. 6. Most of the gummy Resins. 7. Pure volatile alkaline Salts. 8. Perfectly dry and fix'd alkaline Salts. 9. Most of the Soaps. 10. Sulphurs first opened and dissolved by Alkalies. But it does not touch compound or native Salts; as Sal Ammoniac, Sea-salt, and Nitre; nor pure Earth, pure Sulphur, Mercury, Metals, Semimetals, nor Stones, whether vulgar or precious. See ALCOHOL.

OF THE ALKALINE AND ACID SPIRITUOUS MENSTRUUMS.

Most Chymists, under oily and spirituous Menstruums, have ranged two Kinds, which might rather be termed Saline, or Compound. This happens, because these Menstruums usually appear in an unctuous Form; and are generally not only volatile, but liquid and subtil: Whence some Acids, and some Alkalies, have been called by the Name of Spirits, on account of their subtil, volatile, and unctuous Appearance; though they differ greatly from each other, not only in Kind, or as to Acid and Alkali, but, also, acid from acid, and alkaline from alkaline Spirit. We, therefore, first divide the saline spirituous Menstruums into the Acid and Alkaline Tribes; this Distinction being absolutely necessary. Next, we divide the alkaline Spirits from one another; some of them being simple; and others compound. The simplest of these consist of Water, and an extremely subtil, volatile, alkaline Salt, both together appearing in the Form of a thin, pellucid, and somewhat unctuous Liquor; as the pure alkaline Spirit of Sal Ammoniac: And to this Class belong the numerous alkaline Spirits obtained both from Animals and Vegetables, after being deprived of the Oil, that is ready to adhere thereto; as we daily see practis'd by the Chymists, who can thus produce them from the hot, antiscorbutic Plants, putrefied Vegetables, and all animal Substances. The more compound Kind usually consist of Water, the volatile Salt just mentioned, and a ferid Oil, into which three Parts they may be separated; and, therefore, are a kind of volatile alkaline Soap, diluted in a Proportion of Water barely sufficient to dissolve it. The acid and commonly volatile Liquors are also called Spirits, by the Chymists, for the Reason above assigned; but all these, when examined, prove to be acid Salts dissolved in pure Water. Thus, Oil of Vitriol, and *Oleum Sulphuris per Campanam*, several times distilled with boiling Water, become in a great measure, volatile. Upon this Consideration, therefore, I shall here drop the Name of Spirits, and for the future call them by the Name of Saline Menstruums.

OF THE SIMPLE SALINE MENSTRUUMS.

It is a Saying of the Alchymists, That such as do not understand Salts, can never arrive at the grand Secrets: And no Wonder, as various Salts have great Energy in the dissolving of Bodies.

I call Salt a Body which dissolves in Water, and, if not volatile, fuses in the Fire, having a sapid Taste. When a Salt is pure, or either naturally, or artificially, separated from every thing else, it consists of Particles too minute, to be distinctly and separately viewed, even by the Help of the best Glasses; so that we can pronounce nothing as to the Figure of these Particles. And when saline Bodies are resolved into the ultimate Particles, from whence they are formed, they thus seem to become perfectly volatile; so as, when separated from each other, and from all foreign Substances, to fly off into the Air. Therefore, when these last Particles

ticles of pure Salt concrete into sensible Clusters, they always are held together by some intermediate Particles; particularly those of Water and Earth, which here serve for a Cement, and make the Association permanent. Hence we see, that, as the original Particles of Salt can scarce ever be confined in Vessels, so we can say little of their chymical Actions; but, when they appear in a stable Form, we may have some Certainty of them in this compound State.

We must, next, consider the principal Differences of Salt, arising chiefly from the different saline Principles, of which they are composed: And though these Principles are separately known, yet, doubtless, they have a certain peculiar Property respectively. A second Difference arises from the other Principle, which, uniting with the saline one, constitutes the Salt. We, therefore, divide all Kinds of Salts, into such as differ, either in respect of their saline Principle, their connecting Principle, or both. And, with regard to the first Division, I distinguish Salts, and saline Menstruums, into the following Classes. 1. Fixed Alkalies. 2. Volatile Alkalies. 3. Native vegetable Acids. 4. Fermenting vegetable Acids. 5. Fermented vegetable Acids. 6. Vegetable Acids obtained upon Burning. 7. Vegetable Acids procured by Distillation. 8. Native fossile Acids. 9. Fossile Acids procured by Burning. 10. Fossile Acids procured by Distillation. 11. Neutral Salts; as Borax, Nitre, Fossile Salt, Sal-gem, Sea-salt, and Sal Ammoniac. 12. Other Salts composed of these simple ones. Each of which Salts should be examined, in order to find out their peculiar Properties, whereby we may come to a true Knowledge of them, so far as regards the dissolving of Bodies.

OF FIXED ALKALI, AS A MENSTRUUM.

Having already given *Boerhaave's* Account of the Physical Marks, the Nature, and Properties of Alkalies, under the Article ALKALI, that illustrious Author, in considering fixed Alkali as a Menstruum, proceeds to make the following Queries, as Particulars deserving to be farther inquired into.

1. Whether all fixed Alkalies are generated by Fire alone?
2. Whether all volatile Alkalies are produced by a putrefactive Heat?
3. Can any fixed, or volatile Alkalies long retain their Nature in the open Air?
4. Whether their Nature will not be altered, or the Salts changed, so as to become neutral or saponaceous, by thus meeting with acid or oily Particles?
5. Will not the same happen in the Bodies of Plants and Animals?
6. Is not a large Quantity of compound Salts thus daily produced; especially of such Salts, whose component Acid is every-where common, and ready at hand?
7. As natural Acids, or those produced by fermenting Vegetables, abound every-where, is there not, in Nature, a very common Salt, of the same Kind with regenerated Tartar, or the Spirit of *Mindererus*, made with a volatile alkaline Salt, and distill'd Vinegar, being a mild, penetrating, moveable Salt, of no great Taste? But there is nothing of this Kind more deserving to be known, than the Origin and Nature of the most common useful Salts, as Sea-salt, Sal-gem, and Nitre; which, whether they are made by a Combination of their own Acids, such as we find by chymical Distillations, and a fixed vegetable Alkali, deserves to be inquired; or whether, being produced simple by Nature, they are not rather changed, than separated, by Fire. Many eminent Chymists maintain, that all these Salts are naturally produced from the Mixture of Acids with Alkalies. But it is highly probable, that Salt was contained in the Sea, before the acid Spirit of Salt was present therein, and before any fixed Alkali was made from Vegetables. On the other hand, no known Experiment hath hitherto produced the least fixed Alkali from Sea-salt. Nor do I learn, that the acid Spirit of Sea-salt was ever hitherto found naturally, but always as produced by Art, or by Fire; and this rather by a Change, than a Separation, of Parts. It is true, these Acids, properly mixed with Alkalies, regenerate, in some sort, the Salts which afforded the Acids, though always with some Difference between the native and artificial; which shews we cannot be so certain as to the Composition and Resolution of these Salts, as some Authors pretend. We may hence learn what Caution is required in using Alkalies as Solvents, since a Change in any Circumstance, or a slight Addition of a foreign Substance, may easily change an Alkali, and produce a Salt that shall not operate as a pure Alkali, but according to the Nature which is thus introduced.

If, to an hundred Weight of clean Sand, or Flint, reduced to a Calx, and ground to fine Powder, an hundred and fifteen Pounds of pure fixed Alkali be added, and thoroughly mixed therewith, and the Mixture be set in a Glass-house Furnace, with a moderate Fire, for an Hour, and kept stirring all the while, the Fire being afterwards increased for five Hours, while the Stirring is all along continued, a Mass will thus be obtained, rightly disposed for making the finest Glass. If this Mass be put into dry Casks, and kept in a warm dry Place, for four or five Months, the Ingredients will thus be more intimately united. If now the Matter be put into Glass-house Pots, set in the hottest Part of the Furnace, it will thus melt into a kind of viscous, thick, and apparently unctuous Fluid, casting up a Froth to the Surface, as it boils; which Froth, rising more and more, often amounts to a fourth Part of the whole Mass. This frothy Matter being care-

fully skimmed off, as it rises, till no more appears, and the remaining purity'd Matter being kept in constant Fusion for two or three Days, the Matter, thus remaining behind in the Pot, is what the Glass-men call their Metal; and, when cold, makes the best Sort of Glass. Now, unless this was proved by daily Experience, who would have suspected, that fixed Alkali, which runs into a Liquor in a dry Air, should thus, with Sand, melt into a Matter so like a Metal, except in Malleability?

This affords us an Instance how such Menstruums, as have a strong dissolving Power, may permanently concrete with the Bodies they perfectly dissolve; the Concretion being the stronger, as the Solution was more perfect. Hence we learn, that Alkalies, when they dissolve perfectly, may be so changed in the Action, as totally to lose their saline Nature; for though Glass contains near a third Part of Alkali in its Substance, yet it retains not the least Mark of an Alkali. It is extraordinary, that the Glass thus made melts into a renacious, tough, ductile Mass, so as to be formed into Vessels of any Figure, and sticking so strongly to Iron, as to be thereby taken out of the Melting-pot. Another remarkable Particular is, that two opaque Bodies should thus concrete into a pellucid Solid, not to be dissolved by any known Menstruum; though itself, in part, consists of the most soluble of all Salts.

As the Vegetables which afford fixed Alkali by burning, contain an Acid, which adheres more or less to the Alkali, the alkaline Salt must consequently be of a different Nature, than if no Acid adhered to it: Understand the same of Oil and Earth adhering to the Salt. On these Accounts there will be a great Difference between fixed Alkalies, as they contain more or less of these Principles: Whence it is no Wonder, that certain Experiments with Alkali, as related by some Authors, do not succeed, when try'd with different Alkalies.

Alkalies, also, may receive great Alterations from being added to other Substances: Thus, being mixed with Quick-lime, a Salt may be obtained so strong and corrosive, as to dissolve and fuse almost all the Solids of Animals and Vegetables by boiling: Whence we see a strong alkaline Solvent may be prepared from the same Ingredients which make Glass. Again, fixed Alkali, rendered stronger by Quick-lime, and afterwards dried at the Fire, easily melts like Wax; and thus, by an extraordinary Virtue, lays hold of, and dissolves, Bodies put into it. This, perhaps, is the incrated Salt of some antient Chymists.

There are, however, some Bodies, upon which fixed Alkali has no Effect, as a Menstruum: Thus, it does not affect pure Quicksilver; and hence it exerts no dissolving Power upon those Metals, which, according to the Adepts, consist of a pure Mercury, and a fiery, metallic, fixing, sulphureous Spirit. Thus, Gold and Silver are not changed by it, that I know of, though it has some Action upon the other Metals; perhaps, because to their Mercurial Parts they have another added, which approaches to the Nature of an unctuous and sulphureous Substance. But as these external Sulphurs are not easily separable from the metallic Matter with which they concrete, hence it often happens, that, when these alkaline Salts act upon such Sulphurs, they may seem to change the Mercurial Parts of the Metals intimately united with the Sulphur, without being able to touch the Mercury in its own pure Nature. Here, therefore, the dissolving Power of Alkalies, with respect to Metals, seems to be limited; for, when applied to calcined Metals, and assisted by the Force of Fire, they seem not capable of dissolving that Sulphur which fixes their Mercury, and gives them the metallic Form; no Method of applying fixed Alkalies having hitherto, that I know of, obtained the Mercuries of Metals: So that, if what Mr. *Boyle*, *Tatbenius*, and M. *Homburg*, relate of recovering the Mercuries of Metals be true, some secret Process is required, to make these regenerating Alkalies enter the fixing Sulphur of Metals.

Both the fixed and volatile Alkalies have a dissolving Power, 1. Upon animal, vegetable, and mineral Substances; so far as these contain Oils, Balsams, Gums, Rosins, or gummy Rosins, or consist of unctuous Matters; as, also, upon Sulphurs, whether pure, compounded, or joined with other Materials; all which these Alkalies excellently open, attenuate, resolve, and dispose to mix intimately with Water, Alcohol, and Oils. 2. These Alkalies, also, act as a Solvent upon such Bodies whose component Parts are held together by an acid Cement, which being thus attracted by the Alkali, the component Parts now separate, or fall asunder. 3. After certain Bodies have been once dissolved by an acid Menstruum, pure Alkalies often exert a new Power, so as to dissolve such Bodies better, than if applied to them before they were thus dissolved by the Acid. Hence the Alchymists direct, in order to obtain the Mercuries of Metals, that the Metals be first calcined by Acids, and afterwards be treated with Alkalies.

Whether any volatile Alkali exists in Nature, without the Assistance of Putrefaction, or the Distillation of animal or vegetable Substances, is not easy to determine; unless we should say, that the particular Salt, found in mineral Waters, is of this Kind, tho' such Salt cannot be justly reduced to the Class of volatile Alkalies: However, Dr. *Hoffman* has shewn, that they rather belong thereto, than to the acid Tribe. On the other hand, all animal

and vegetable Substances are, by Putrefaction, brought to afford a perfect volatile alkaline Salt; the acrimonious pungent Vegetables, and all animal Substances, afford it upon bare Distillation; and such animal Juices as are not alkaline, yet, upon being mixed with fixed Alkali, are so changed as immediately to yield alkaline Exhalations, and, by the Action of the Fire, afford a volatile Alkali, the other Parts being attracted into the fixed Alkali. These Salts, however produced, may by chymical Treatment be rendered pure, of the same Virtues, and of the same Form; their Virtues being similar to those of fixed Alkalies, though with some Difference: Thus volatile Alkalies act, and are agitated spontaneously, or by a very small Degree of Heat; whereas fixed Alkalies require a much stronger Assistance from Fire, in order to their acting; volatile Alkalies fly off the Instant they are heated, and, therefore, do not exert their dissolving Power, when applied to heated Bodies; while fixed Alkalies sooner enter the Bodies they dissolve, when assisted by Heat; and remain constantly applied to every fixed Subject they act upon. But, when volatile Alkalies are purposely kept close to a Substance to be dissolved, a moderate Heat then increases, and quickens their dissolving Power; as we see upon applying the volatile Salt of Urine, for Instance, to the warm Skin, and covering the Salt with a sticking Plaster; for thus there soon arises Heat, Pain, and Inflammation upon the Skin, followed by an Ulcer, and a black Eschar. Allowing for these Differences, the Action of volatile Alkali may be understood from the History given of fixed Alkali. See *ALKALI*.

ACID MENSTRUUMS are consider'd under the Article *ACIDA*.

NEUTRAL SALTS, CONSIDER'D AS MENSTRUUMS.

By neutral Salts we here understand such as are neither acid nor alkaline, but seem to be a saturated Mixture of the two. Let us first consider Sal Ammoniac, which easily dissolves in Water, and runs per Deliquium in a moist Air, so as thus to make an extremely pungent, penetrating Liquor, capable of dissolving gross, gelatinous, pituitous, and gummy Concretions in the Bodies of Animals, being not only admirably attenuating, resolving, and incising, but, also, sudorific, diuretic, and stimulating, to the salival Glands, and, at the same time, greatly preventive of Putrefaction. This Solution of Sal Ammoniac, boiled or digested with gummy or resinous Vegetables, resolves them intimately, and thus disposes them to resolve in aqueous or spirituous Menstruums. Iron Filings, boiled in it, are excellently dissolved and turned into an admirable, aperient, and invigorating Medicine. Being digested with Filings of Copper, it produces a beautiful blue Liquor; a few Drops of which, taken upon an empty Stomach, often prove good against Worms, and epileptic Fits.

The pure dry Salt, being sublimed into Flowers, and then very well ground, and mixed with Fossils, and sublimed together with them in close Vessels, produces very extraordinary Effects as a Menstruum; whence it has been called by the Alchymists the *White Eagle*, or the *Philosophical Pestle*. If sulphureous Bodies, Metals, or Semimetals, be treated in this manner, they are thus attenuated, opened, volatilized, and perfectly changed: Whence most excellent Remedies are, in this manner, prepared, and scarce so well in any other; as we see in making the Flowers of Lapis Hematidis, Ens Ventris, Ens Martis, &c. The Changes of Colour produced in Antimony, by being sublimed herewith, are very extraordinary. And many of the ancient Chymists have called this Salt, the Key for unlocking the Secrets of Nature: It has this excellent Property, that it is scarce changed in Sublimation, except by the Bodies it is mixed with: When added to Aqua-fortis, or Spirit of Nitre, it presently changes them into Aqua Regia. With fixed alkaline Salts it soon changes, partly into a pure volatile Alkali, which directly acts as such, and partly into a new Salt, resembling Sea-salt. A saturated Mixture of the Spirit of Sea-salt, and a pure, volatile, alkaline Spirit, immediately produces Sal Ammoniac; which may, also, be made by subliming a Mixture of Sea-salt, Urine, and Soot: Whence it seems to be a semivolatile Sea-salt; so that its Power, as a Menstruum, chiefly resembles that of Sea-salt. It cannot, therefore, be more improved, than by being several times sublimed from pure, dry, decrepitated Sea-salt, in close Vessels; which is the best Method of obtaining the Flowers of Sal Ammoniac.

Though Sea-salt, Sal-gem, and Spring-salt, differ in their Origin, yet they are of the same Kind, and may all be consider'd as Sea-salt; which by means of the Sea-salt Springs, and Salt Mines, is distributed over all Parts of the Earth, as the universal Preservative against Putrefaction. This Salt easily dissolves in Water, and runs per Deliquium in a moist Air, so as to make a Brine, or an excellent Menstruum, producing nearly the same Effects as the Brine of Sal Ammoniac.

Sea-salt decrepitates over the Fire, and, being afterwards reduced to fine Powder in a warm dry Mortar, it may be melted in the Fire; where it readily passes through the Pores of the Crucible, and vanishes. If Semimetals, or metallic Fossils, are mixed with this Salt in Fusion, great and peculiar Changes are thus produced. I mixed eight Ounces of pure, undecrepitated Sea-salt with two Ounces of powdered Antimony; and, after

long grinding them together, I put the Mixture into a Crucible, and, covering it with another Crucible, I fastened them together with a strong Luting; then setting them in a reverberating Furnace for twenty-four Hours, and increasing the Fire at last, to make the Salt run, I found, upon opening the Vessel, a dusky Mass, with white Spicula rising on the Top; then, reducing the Whole to Powder, I treated it as before, and obtained a ruddy Mass, with the more metallic Part at the Bottom; and, upon repeating the Process, and using a strong Fire of Fusion, almost all the Salt passed through the Pores of the Vessel; leaving at the Bottom a ruddy Mass of Antimony, surprisingly changed; whence we see, by an Example, how this Salt may act as a dry Menstruum, by means of Fire.

This Salt may be used, on many Occasions, with a much greater Effect than any other Salt; and, therefore, is usually applied, in a dry Form, mixed with Brick-dust, in the Business of Cementations, in order to introduce extraordinary Changes as to the Exaltation, Separation, and Ripening of Metals. In this Operation we are to observe, that the dry Sea-salt, here mixed with the Brick-dust, turns to a volatile acid Spirit, resembling Aqua Regia, and acting like that upon Metals. When, by these means, the Sea-salt is turned to a Spirit, and several times returned back upon a pure decrepitated Salt, a surprising particular Solvent is thus obtained from the Sea-salt: To this Purpose, I shall here relate a laborious Experiment.

To two Pounds of Spirit of Salt, I added, by Degrees, as much pure, dry Sea-salt, in fine Powder, as the Spirit would take up; then, purifying the Liquor by Rest, and Straining, I put it into a tall chymical Phial; and, inverting another of a smaller Kind thereon, I carefully cemented them together; then exposed the Matter to the Heat of the Sun, from the tenth of May to the tenth of July. After this I distilled, in a Retort, with a gentle Fire, till a thick Liquor, appearing like Oil, and containing hard Crystals of Sea-salt, remained at the Bottom. What was distilled over, I now poured back, and drew off afresh, repeating this Operation thrice; then found the Salt remaining at the Bottom was spongy, fat, and oily. After this I repeated the Operation twenty times, and again poured back the Liquor last distilled, and left them mixed together for five Months; then with a gentle Fire I drew off an almost insipid Phlegm, till the acid Spirit began to rise; when, changing the Receiver, and distilling with a stronger Fire, I obtained an extremely strong, acid, ponderous Oil of Salt, which I kept separate, and observed, that the Salt remaining at the Bottom of the Retort, after all these Distillations, was extremely acid, and considerably fixed. I put this Salt in a glass Dish, and exposed it to the Air of a Cellar, where it ran per Deliquium into a Liquor; which being purified by straining, and united again to the Phlegm, Spirit, and Oil of Salt, before drawn over, I thus, at length, by a new Distillation, obtained a Menstruum of such Efficacy, as made me not repent of my Labour. Sea-salt, being dissolved, purified, and crystallized, affords a ninth Part of a solid Substance, having a bitter austere Taste, and not shewing into Crystals; and this Part being taken from it, the Salt becomes the purer.

The common Nitre, being produced from animal, aërial, and calcareous Substances, is easily turned to fixed Alkali, and a volatile Acid. It, also, appears of a particular Nature, when applied to Bodies as a Menstruum; and its Operations are here so intricate, as sometimes scarcely to be explained. When exposed to the Fire in a pure and dry State, it there soon flows with certain Bodies, like Water; and thence surprisingly promotes their Melting, though otherwise of difficult Fusion; and thus attenuates, divides, and internixes their Parts, even while it acts upon them in no other respect. Whence it comes to be used in Metallurgy, as a Flux for Metals.

But if the Matter, thus mixed with the Nitre, contains any thing oily, unctuous, or sulphureous, this suddenly deflagrates with the Nitre in the Fire, raises a violent Flame, and greatly increases the Heat: Whence the Application and Action of the Nitre being stronger, it greatly changes, divides, fuses, and separates the Bodies in a different manner than is otherwise known; the Nitre, at the same time, losing its own Nature, or turning to a kind of Sal Polychrestum, which has a different dissolving Power from that of Nitre: Whence the Action of Nitre upon Bodies is of one sort before it deflagrates with them, of another during the Deflagration, and of a third after the Deflagration is over.

When Nitre is melted along with a vegetable Coal, its Parts are strongly agitated, so as in like manner to agitate the Bodies to be dissolved; at the same time discharging particular, five Fumes, capable of penetrating and dissolving many Bodies in the Fire. But, when the Nitre is thus changed to fixed Alkali, it does not flow, unless the Fire be violent; and then, according to its penetrating and particular Nature, it begins to act as a fixed alkaline Menstruum; and thus acquires and exerts a new dissolving Power.

If the Bodies thus to be dissolved by Fusion with Nitre contain Earth, Stone, Alum, Vitriol, Bole, or the like, the Nitre is immediately changed into a strong acid volatile Salt, or Spirit of Nitre, which, now agitated with so violent a Fire, enters, and

dissolves, and greatly changes the Subject, thus acting by one of its Parts like Aqua-fortis; while the other Part, remaining at the Bottom, acts by a very different dissolving Power. Hence we may understand, what a great Effect this Salt may have, when used in the way of Cementation, along with metallic Matters; for thus it changes into a corrosive Spirit, capable of altering metallic Substances various Ways.

If pure Nitre be fused in a strong Fire, along with Regulus of Antimony, it, at length, produces a kind of caustic Stone, which acts after a manner peculiar to itself, being a very fixed Salt of difficult Fusion, and uncommon fiery Acrimony: Whence it appears, what a prodigious dissolving Power this Salt may have, when mixed with Regulus of Antimony, and applied to Bodies in the Fire.

If Powder of Sal Ammoniac be thrown upon Nitre melted in a clean Crucible, a gentle Flash will be produced, as if a burning Coal was thrown upon the Nitre; while the Salt is thus every Moment changed in the Fire, till at length, being saturated with the Sal Ammoniac, it flashes no longer; but turns to a new Kind of redish Salt, of a very particular Nature, little known or considered by the Chymists; but while the Nitre, and Sal-ammoniac, are thus mixed with other Bodies in the Fire, different Kinds of Solutions will be made at different times; and, consequently, different Effects produced at each time, while the Bodies remain together in the Fire. These Particulars are seldom carefully regarded by the Operators; whence they frequently meet with unexpected Accidents, while they overlook such things as may alter the Success of their Experiments. If one Part of Sea-salt, and two of Spirit of Nitre, be distilled together, the Liquor that comes over from them, with a gentle Heat, will prove an *Aqua Regia*, and acts entirely as such; while the Salt remaining behind will be Nitre, and, when thoroughly dried, will act as Nitre, though, at the Beginning of the Operation, it acted as *Aqua Regia*, in the Liquor distilled over. Whence we see, what a great Difference may be in the Action of a Menstruum, at different times of the Operation. So, again, if one Part of pure Nitre, and three Parts of the Spirit of Sea-salt, be distilled together, they yield a strong *Aqua Regia*; while the dry Salt, remaining in the Retort, is again left true Nitre. Which shews us how careful we ought to be in the Use of these Menstruums, to prevent being imposed upon. So, likewise, if the Spirit of Nitre, with a proper Proportion of any Alkali, be used as a Solvent, they soon turn to Nitre, and act as such at the End of the Operation. If *Glauber* says true, that Nitre may be made from a Mixture of Sea-salt, fixed Alkali, and Quick-lime, burnt and ignited in the Fire, and afterwards exposed to a moist Air; these three Substances, being used together in Cementation, must have a very different Effect from what one might otherwise imagine.

Native Borax, being dissolved in Water, filtered and crystallized, has a somewhat sweetish and bitterish Taste; but is neither acid nor alkaline. By strong Distillation it affords mere Water; while the Part that remains behind, turns to Glass, incapable of being dissolved in Water. When mixed with Sand, and urged with a violent Fire, it affords no acid Spirit. It greatly promotes the Fusion of Metals, and thus, also, has numerous other Effects, which could not otherwise be so easily obtained.

If what is above delivered of saline Menstruums be well understood, it will not be difficult to conceive, that various Combinations of Salts should produce many new Kinds of saline Menstruums, having singular and uncommon dissolving Powers. These Combinations are sometimes made by Art and Contrivance, and sometimes accidentally, so as to surprise by their unexpected Effect, and thence come to be registered in Books of Chymistry; and, from these two Origins proceeds that vast Stock of Menstruums with which Chymistry abounds. Thus, when volatile Alkalies are mixed with the fixed Kind, the former are always rendered stronger, and more volatile, by the Action of the Fire; whilst the latter, attracting the acid Particles, which perhaps remain'd in the volatile Alkalies, as also the Oils, but retaining the terrestrial Particles, hence become different, or more compounded, and productive of other Effects. Fixed Alkalies, being united with native vegetable Acids, afford an extraordinary compound Salt, of a mild, aperient, and diuretic Nature; as we see upon mixing Salt of Wormwood with Juice of Lemons, and the like in a proper Proportion; whereby a Salt is procured of very different dissolving Powers from the Parts it was composed of, or from any other Salts; and, when volatile Alkalies are mixed with these Acids, another Kind of compound Salt is produced, differing greatly from the former, made with fixed Alkali. When fixed Alkalies are properly united with pure, fermented, vegetable Acids, they, upon mixing, afford many extraordinary Phenomena, and produce a neutral, mild, volatile, penetrating, saponaceous Salt; the Effects whereof upon animal, vegetable, and fossile Substances, have made me sometimes suspect it to be the volatile Salt of Tartar, so highly extolled by *Helmont*. Perhaps, of all the neutral Tribe of Menstruums, there is not one that more deserves to be considered, and made use of, than this; as might be shewn by numerous Examples, and as remarkably appears by its dis-

solving the Body of Myrrh, which with Difficulty yields to Alkalies and Acids, so as to be rendered potable, and miscible with the Blood; but, by being properly digested with this neutral Salt, it is intimately and inimitably dissolved for the Purpose. The same Salt, if carefully made, intimately unites with Spirit of Wine, so as to afford an excellent Menstruum. Hence we might easily confute the Error of the modern Chymists, who make Alkalies and Acids the Principles of all things, and assert, that their Virtues are destroyed by mixing them together. On the contrary, it is certain, that the pure Alkali of Tartar, properly mixed with the volatile Acid of Vinegar, makes a neutral Salt, of a much more noble Virtue than the separate Acid or Alkali. When a pure volatile Alkali is exactly saturated with the strong Spirit of Vinegar, we have thus a limpid, lightly saline, volatile, compound Liquor, able to pass through almost all Kinds of Bodies, so as to dissolve them, without any considerably visible Conflict. Whence some have highly esteemed this Liquor, in curing Disorders of the Eyes and Ears, arising from Concretions. What has likewise been reckoned a great and successful Secret for resolving cold, glandulous Swellings is, to foment them with a Mixture of putrefied Urine and Vinegar, the Part being first rubbed, and the Liquor applied warm.

Hence we may understand, that the Consequence of mixing fixed or volatile Alkalies with fermenting Acids will be, a Stoppage of the Fermentation, after the Production of a sudden Effervescence, and the consequent Production of neutral Salts. The like neutral Salts will, also, be produced, upon mixing the same Alkalies with the Acids obtained either by Distillation, or the burning of Woods in the Fire.

When these fixed Alkalies are united to a native fossile Acid, new compound Salts, greatly differing from one another, are produced. Thus, if hot Oil of Tartar *per Deliquium* be gradually drop'd upon a Solution of pure Alum in Water, till the Point of Saturation is obtained, an earthy Calx will be precipitated; and if the clear Liquor, floating above it, be filtered, the native Acid of the Alum, here attracted by the Alkali, will afford a Salt like vitriolated Tartar, but without any metallic Part, and of an excellent dissolving Power, as a Menstruum, and of considerable medicinal Virtue. So, if to a warm and clear Solution of white, green, or blue Vitriol, the same Solution of fixed Alkali be added, after the same manner, we obtain a compound Salt, consisting of the fixed Alkali, and the fossile Acid, which had dissolved the calcareous Matter, the Iron, or the Copper, naturally dissolved in the Vitriols. Whence, again, a neutral vitriolated Tartar is produced, differing from the common, as its Acid had not felt the Force of so strong a Fire, and, therefore, better preserves its native Virtues; it also better deposits its metallic Parts, except the Vitriol was from Copper, whose metallic Part, remaining in the Solution, tinges the Salt of a blue Colour.

When fixed Alkali is intimately mixed with Sulphur, the fossile Acid of the Sulphur is attracted into the Alkali; and hence arises a Salt resembling the former, though of a somewhat different Nature, as appears by the Figure of the Crystals it shoots into: This seems principally occasioned by the unctuous Part, which being mixed in with the Sulphur, also, joins itself to the fixed Alkali, and souls the Salt; thus making a more compound Salt of different Taste, Odour, and Virtue.

Thus, upon mixing vitriolic or aluminous Waters, or their unctuous Sediments, with fixed Alkali, the metallic or terrestrial Part, dissolved in them, being now separated, the acid Solvent will unite with the Alkali into a kind of vitriolated Tartar where the dissolving Power is peculiar or different from that of other Salts; as appears by applying it to Metals, Semimetals, Sulphurs, and other fossile Substances. This Salt usually retains its dissolving Power more permanently than any other compound Salt; its Acid, as well as its Alkali, being more fixed, and both thus united into a very fixed neutral Salt. Nor do we know any other Acid, which, when apply'd to this vitriolated Tartar, is able to separate the Acid it contains; whereas the native Acid of Vitriol commonly expels the Acid from all other Salts.

When pure volatile alkaline Salts are mixed with these native fossile Acids, a particular Kind of ammoniacal Salts are thus produced. These may be called Semivolatile vitriolated Tartars, and highly deserve to be regarded by Chymists, on account of their remarkable dissolving Property; and by Physicians, on account of their considerable, aperitive, attenuating, resolving, stimulating Virtues.

Hence may be understood, what will follow upon mixing common Sal Ammoniac with the Vitriols, and committing the Mixture to the Fire. Thus, the Acid of the Vitriols, being attracted into the alkaline Part of the Sal Ammoniac, releases the acid Spirit of the Sea-salt, which makes the other Part of the Sal Ammoniac; this Spirit, being volatile, is thus separated, whilst, by the Union of the vitriolic Acid with the alkaline Part of the Sal Ammoniac, a semivolatile vitriolated Tartar is produced; the remaining Part being a metallic Mass, before contained in the Vitriol, but now precipitated in the Form of Precipitate; or else, being again dissolved by the Spirit of Salt, affords a new Kind of metallic Solution. Hence we have a just Foundation for judging of the Event of combining fixed, or volatile Alkalies with all the

native fossile Acids, however they may lie concealed in Metals, Earth, Oils, or other Salts.

Let us next consider those Menstruums which arise from the Combination of fixed Alkalies with a fossile Acid obtained by Fire. When pure fixed Alkali is perfectly saturated with the acid Spirit of Sea-salt, Sea-salt seems to be regenerated. When saturated with the Acid of Nitre, it re-produces Nitre; and with the Acid of Alum, of Sulphur, or Vitriol, it constantly makes the Tartarum vitriolatum. In the same manner, when pure volatile Alkali is united with Spirit of Sea-salt, there arises a true Sal Ammoniac; and when mixed with Spirit of Nitre, or Aqua-fortis, a semivolatile Nitre is produced. If the same volatile Alkali be united with Oil of Vitriol, with Oil of Sulphur by the Bell, or with the Acid distilled from Alum, it thus produces a semivolatile vitriolated Tartar. Hence it appears how many and what surprising Actions of Menstruums arise from the mixing of certain Bodies together, and applying them to the Fire. And, without an exact Knowledge of such a Variety of Particulars, we can never have an adequate Knowledge of the chymical History of Menstruums.

We now proceed to consider the Action of Menstruums made by uniting pure simple Salts with other Salts. Thus, if pure Alkali be added to the Brine of Sea-salt, an earthy Matter is precipitated; and the Salt now obtained by Crystallization from the clear Liquor will be a purer Sea-salt. The same fixed Alkali, being added to a Brine of Nitre, changes the Liquor thick and milky, and precipitates an earthy Matter, whereby the Nitre obtained from this Solution becomes extremely pure. When fixed Alkali is added to the Brine of Sal Ammoniac, it seizes the Acid of that Salt, sets the volatile Alkali free, or suffers it to fly off, leaving a pure, fixed Sea-salt at the Bottom of the Vessel. If a pure volatile Alkali be added to the Brine of Sea-salt, it makes the Liquor thick, then purifies it, and flies off: It does the same, when added to a Solution of Nitre, or to a Solution of Sal Ammoniac. Vegetable Acids, fermented or not, produce but little Alteration, by being mixed with Sea-salt, Nitre, and Sal Ammoniac. Of the Menstruums arising from the Mixture of fossile Acids with these Salts, we have already produced Examples; and shall only add, that if Quicksilver be incorporated with calcined Vitriol by long grinding them together, and decrepitated Sea-salt be added thereto, and the Mixture be put to sublime in a glass Vessel, with Degrees of Heat, in a Sand-furnace, the Acid of the Vitriol thus turns the Acid of the Sea-salt into a Spirit, which now dissolves the Mercury, and makes it rise to the Top of the Vessel in the Form of pure Mercury Sublimate, which is no more than the Spirit of the Sea-salt attracted into the Quick-silver, and thus united therewith, into an uniform, vitriolic, mercurial Mass, soluble in Water. There are numerous surprising Instances of this kind, in the History of Menstruums, which may be all understood by the Principles here laid down. Let it only be remembered, that in what way soever Salts are united with Salts, new saline Productions, and new Menstruums, will arise; whence the Art of Chymistry may be perpetually improv'd, and new Phenomena produced, not only affording Pleasure to the Mind, but increasing our Knowledge of the native Properties of Bodies, and often leading to great and unexpected Discoveries for the Accommodation of Life.

New Menstruums of particular Virtues may be infinitely made, by variously combining different Menstruums together, by reducing every Menstruum to its utmost Degree of Purity, and by reducing some of them into their minutest Particles; for, upon these three Particulars, the extraordinary Skill of the principal Chymists seems chiefly to depend. It would be endless to give all the Instances that might be produced to this Purpose; we shall, therefore, content ourselves with the following: Suppose an extremely pure, strong, and subtle, fermented, vegetable Acid was wanting: Take fine Verdegrise, prepared from Copper, corroded by the subtle Vapour of a fermenting Acid: Add to it twenty times its own Weight of the strongest distilled Vinegar that can be made; digest them together, till the Verdegrise is dissolved into a deep-green Liquor, which being thoroughly purified by Filtration, and inspissated over a gentle Fire, to a Pellicle, set it in a quiet Place, where it will shoot into Crystals, of the Colour of an Emerald, consisting of the Acid of the Vinegar, and the dissolved Copper; pour off the Liquor, collect the Crystals, and repeat the Process, till no more Crystals can thus be obtained. If, now, the Verdegrise, saturated with the Acid, be dry'd in a warm Air, then distill'd in a Glass Retort, with Degrees of Fire, you may obtain a most pure, and perfectly strong, vegetable Acid, no way participating of the Copper. But the same Experiment does not succeed with Lead, Tin, or Iron; whereas Copper thus attracts the Acid separately from the aqueous Part, and without changing its Nature, while other Substances would also attract and separate it, but, at the same time, render it impure. A Vinegar, for this Purpose, may be made from Beer, Cyder, Perry, Honey, Sugar, Manna, and the like.

To shew that, by compounding one Menstruum with another, new and excellent Salts may be procured, let it be recollected, that regenerated Tartar, properly prepared, may be intimately united with pure Alcohol, and thus produce a vegetable Men-

struum, composed by the close Union of the most subtle vegetable Particles, Alkali, Acid, and Sulphur: Whence the Effect of such a Liquor is extremely great, both as a Menstruum, and a Medicine.

We shall now proceed to make the following Inferences:

1. It is not certain, whether any Menstruum has a Power of dissolving any Subject, without the Assistance of Fire; as no Experiment could ever be made in a Place destitute of all Fire, and, as most of the known Menstruums act the better, when assisted by a certain Degree of Fire.

2. Menstruums can scarce act as such, unless reduced to a fluid Form, or at least, approach thereto; as they chiefly do, by the means of Fire, Air, Water, and Triture; which four Causes usually excite the latent Powers of Menstruums.

3. Certain Menstruums contain a Cause within themselves, apparently capable of exciting Motion; though in Reality it depends upon the near Approach of another Body. Thus, if a good Load-stone be suspended by a Thread, and hangs at Rest in a great Degree of Cold, it will seem to have no active Virtue; but, if Iron comes near it, a Motion is produced in both these Bodies, till they come together, and remain in Contact; and this kind of Power generates Motion spontaneously, without the Assistance of any Fire sensible to us; and is not excited by Motion. So likewise, strong Spirit of Nitre, confined in a close Vessel, yields an acid Fume, constantly playing about the Surface of the Liquor, and issuing out whenever the Vessel is unstopped. The same Appearance has the Fume of the alkaline Spirit of Sal Ammoniac; and the Spirit of Sal Ammoniac, made with Quick-lime, affords a Fume much more volatile and moveable. This kind of Bodies, therefore, strangely retain, and strangely excite Motion; and possibly there are such continually floating about in subterraneous Places, till they rest in some one Body, where they unite, fix, and thus produce numerous compound Substances; but we are always to remember, that Air, even in the utmost Cold, has a constant vibratory Motion, and therefore may often excite the Motions we here speak of; as, on the other hand, Solutions are often immediately performed, by means of the Motion peculiar to the Menstruum arising from it; whilst a considerable Motion of another kind, and proceeding from a different Cause, would not produce the Effect. Thus, if a Piece of fine English Chalk be calcined in a strong Fire, or even in the Focus of a burning Concave, it will scarce be changed by this violent Motion; nor, again, by being exposed to a hot and cold Air, either at Rest, or agitated by strong Winds; and though it be long boiled in Water, or a Brine of Salt of Tartar, it will not dissolve; but it immediately melts and disappears in cold Vinegar: Whence we see there is a very great Difference between the Motion excited by the reciprocal Force of the Solvent and Solvend, and the Motion excited by Fire, Air, Water, and Impulse.

4. The Acrimony of a Menstruum, which excites Pain, corrodes, or consumes the Parts of the human Body, is no Sign, that such a Menstruum is suited to dissolve other Bodies. Thus, Oil of Vitriol, Spirit of Nitre, Spirit of Salt, and Aqua Regia, though they readily consume the Flesh, do not dissolve Wax and Sulphur; though these two may easily be dissolved in the human Body.

5. Many Bodies, incapable of dissolving in certain Menstruums, may be fitted for dissolving therein, by being previously dissolved in another Menstruum. Thus, if common Sulphur be boiled ever so long in Alcohol, it dissolves no more than a Stone in Water; but, if the Sulphur be first melted with Salt of Tartar into a dusky Mass, cold Alcohol will soon dissolve the Sulphur intimately. Some eminent Chymists have conceived so highly of this regular and successive Application of different Menstruums, particularly Mr. Boyle, and Mr. Homberg, that they say even Metals may, by these means, be resolved into their component running Mercury, and fixing Sulphur. But, after many Experiments, I have not found, that Metals could be thus turned into Mercury.

6. Certain Menstruums dissolve such Bodies, as before tried might be judged little suited thereto: And this holds both on the Side of the Solvent, and Solvend. Thus, the viscid and tenacious Body of native Turpentine is so penetrating in the Body, as very soon to give a Violet-smell to the Urine, change its Colour, and warm the Person who takes it; it dissolves Oils and Resins with a gentle Heat, and even the gummy Resins, which can scarce otherwise be dissolved. The Yolk of an Egg would scarce be suspected of any solvent Power from its obvious Properties; yet, by being ground with any of the Gums, Oils, Resins, or Balsams, it dissolves them better than any other Menstruum, destroys their Tenacity, renders them miscible with aqueous and spirituous Liquors, and fit to enter the circulating Fluids of Animals. The White of an Egg, when boiled to Hardness, and distilled in Balneo Marie, affords a limpid aqueous Liquor, of no considerable Smell or Taste, and of no saline, acid, or alkaline Nature; yet what a particular Power it may have, even upon Metals, appears from Paracelsus, and Helmont, who judg'd it the properest Thing in preparing their medicated Mercury. And if the White of an Egg, after Boiling, be infused

ferred to run *per Deliquium* in a Cellar, it turns to a kind of pure Water, which dissolves the hard tough Substance of Myrrh, better than any other Menstruum.

7. Hence therefore Acidity, Acrimony, or a saline Property, discovered in any Menstruum, can never assure us, that such a Menstruum will dissolve a given Substance, till we find by particular Experience, that a Solution ensues, upon putting the Bodies together. Thus, if any known Acid, whether strong, or small, be put to common Sulphur, and assisted by Heat, it will not dissolve the Sulphur. So Spirit of Nitre, which dissolves other Metals, will not touch Gold: Whence we cannot say in general, that Acids dissolve Metals; but, properly, that certain Acids dissolve these or those particular Metals. A Person who had often experienced the corrosive Virtue of strong, fixed Alkali in numerous Substances, might perhaps expect it would dissolve all Bodies; but he would soon be undeceived, upon finding it does not affect Quicksilver, Silver, or Gold; and the same holds also of Salts. Hence we cannot say, that Acids, Alkalies, or Salts, are Solvents universally; but only with respect to their determinate, definite Subjects, whereto Nature has fitted and limited them.

8. So again, universally, a cautious Chymist, finding a Body dissolved, will not infer, that an Acid, an Alkali, or a neutral Salt, was the Cause of the Solution, unless other Circumstances determined this to be the Case; yet the modern Chymists have often deviated from this Rule, through a Fondness for general Conclusions. Suppose a Person sure, that Gold was dissolved into its least Particles, and that there was no other known Salt which would dissolve Gold, besides Sea-salt, or Preparations thereof; yet he could not hence justly infer, that Sea-salt was here the Solvent: For pure Quicksilver will also dissolve Gold; though Quicksilver be as far from an acid, alkaline, or acrimonious saline Nature, as any known Substance in the World.

9. We may add, that there is no general or absolute corrosive or dissolving Acrimony, this being always relative, and holding only true of the Solvent, and Solvend, and not of the Solvent, in respect to all other Bodies. Thus, if upon seeing the corrosive Virtue of *Aqua-fortis*, in a thousand Instances, upon animal, vegetable, and mineral Substances, we should hence conclude it would corrode all other soft and tender Substances, we might soon correct ourselves by observing, that it will not dissolve soft Wax, or brittle Sulphur.

10. On the other hand, it is no safe Conclusion, that because a Menstruum proves mild and innocent to the human Body, it will not therefore dissolve other Bodies: For Oil-olive may be safely received in a large Quantity into the Stomach and Intestines; though it readily dissolves Sulphur and Wax, which Acids will not touch. Melted Wax, though so mild a Substance, is said to extract the red Colour of Coral, which long sustains a violent Fire without changing, and even resists the Force of Alkalies. Hence the hardest Bodies, with regard to our Senses, and found to be such by their resisting of Fire, do not require, in order to their Solution, Solvents apparently corrosive.

Upon the Strength of the Doctrine here delivered, it cannot appear impossible to discover, in Art or Nature, a peculiar Menstruum, capable of dissolving some one thing insoluble by almost all others; whilst, at the same time, this Solvent shall not dissolve other Substances of a much weaker and softer Texture. The way of discovering such a Menstruum is by successively applying all sorts of Menstruums to the Body, whose Solution is required; and, here, what might be judged the least proper for the Purpose, may sometimes best answer the End. Thus, though Cancers, and the Stone in the Bladder, have hitherto proved incurable, yet we ought, on no Account, to despair of discovering Remedies for them, and particularly of finding a Method of dissolving the Stone, without injuring the Bladder; since it is by no means a Consequence, that the Bladder should be corroded by the same Remedy which dissolves the Stone.

The Spirit of Rye-bread has a surprising Power to dissolve certain Stones; yet does not corrode any Part of the human Body: And the Water which boiled Whites of Eggs spontaneously runs in, dissolves many Substances; yet may be poured into the Eye with Safety.

11. Most Menstruums, at the time they dissolve and change the Subject, are also changed by it, the Action being reciprocal; and though Water, Alcohol, and Mercury, hence receive but little Alterations, yet they are gradually changed by the Operation.

12. It is a great Error to suppose, that the purer any Menstruum is made, the more powerfully, or the more perfectly, they always dissolve; because their dissolving Power is often diminished, in proportion to their Purification. Thus, Lead is always more difficultly dissolved in *Aqua-fortis*, the stronger the *Aqua-fortis* is made; and more easily, when the Menstruum is diluted with a proper Proportion of Water; and several Examples may be brought to the same Purpose. On the other hand, the utmost Purity is often required in a Menstruum, to make it a proper Solvent: Thus, distilled Oils require perfect Alcohol to dissolve them totally into an uniform Liquor; the Interposition of Water preventing the Effect. Hence we cannot absolutely

pronounce of Menstruums, whether they should be weak or strong, in order to dissolve certain Subjects; but the Matter must be determin'd by Experiments.

13. There is nothing more remarkable in this Doctrine of Menstruums, than the Production of new Powers by their Action; which Powers, before, existed neither in the Solvent, nor Solvend; but depend entirely upon the Union of both, after the Solution is performed. Thus, an Infant might safely swallow a few Grains of Quicksilver, or a very few Drops of Spirit of Salt; but, if these two Bodies are united, so as to make corrosive Sublimate, three or four Grains thereof would prove a violent Poison. Chymists, being thus admonished, will, it is hoped, not always expect, that the Productions of their Solutions must be either innocent or medicinal, only because the Simples employ'd in them were so. Whoever has regard to Truth and Virtue, will think, that if any new Production be thought deserving of a Trial as a Medicine, it should be done slowly and carefully; beginning with a moderate Dose, and having the Mind intent upon the Event and Circumstances. Thus, our Chymical Doctrine of Menstruums may lead us to understand all the best and greatest Discoveries which the Art is able to make. *Boerhaave's Chymistry*.

MENSURA. A Measure See PONDUS; under which Article there is a Table of Measures and Weights.

MENTAGRA. This was a kind of obstinate Tetter, which *Pliny, Lib. 26. Cap. 1.* informs us, first appeared in *Italy* in the Reign of *Claudius Caesar*. It began upon the Chin, and extended itself over the rest of the Face, even to the Eyes; and descended to the Neck, the Breast and Hands. It did not endanger Life; neither was it painful; but was extremely frightful to look at. Neither the Women, nor the ordinary People, nor the Slaves, were affected with it; but People of the first Condition only. They brought Physicians from *Egypt*, in order to cure it, which is a Country fruitful in such kind of Distempers. The Method of Cure was to cauterize, in some Parts even to the Bone, otherwise it would return. And the Cauteries left Scars more unseemly than the Distemper.

It is remarkable, that in the Pontificate of Pope *Pelagius*, the Summer after an Inundation of the *Tiber*, abundance of People were affected with an epidemical Eruption of Pustules, which were very malignant, and which the Physicians had never before seen, nor did they know how to cure. This made some think, that the Lues Venerea ow'd its Origin to an extraordinary Overflowing of the *Tiber*, which happen'd in the Pontificate of *Alexander* the Sixth, at the time that *Charles* of *France* invaded *Italy*.

This epidemical Disorder might possibly be the same as the *Mentagra*; and this last, in the Reign of *Claudius*, might happen after some great Inundation: What makes this the more likely is, that they were oblig'd to send to *Egypt* for Physicians, where this Malady was epidemical, probably from frequent Inundations.

MENTHA.

The Characters are;

It has a creeping Root; the Flower is quadrifid, and, tho' without Apperance of a Galea, or Beard, has its Lip in a manner divided into two Parts; the Whorles of the Flowers are closely disposed. The Plant has a pleasant, balsamic, and aromatic Smell.

Boerhaave mentions thirteen Species of this Plant; which are,

1. *Mentha*; *rotundifolia*; *crispa* *spicata*. *C. B. P.* 227. *J. B.* 3. 2. 218.
2. *Mentha*; *crispa*; *Danica*; aut *Germanica*; *speciosa*. *Park. Theat.* 32.

S. Paullus tells us, that he had observed the circular Motion of the Blood suppress'd by a simple Decoction of the *Mentha crispa* [it is uncertain whether he means this Sort, or the *Mentha crispa verticillata*, *C. B.* or the *Mentha spicata rotundifolia crispa*, *J. B.*] to such a Degree, that not a Drop could be evacuated from the Foot, tho' attempted by a very dextrous Surgeon with a myriform Lancet, which he enter'd three or four times, to a good Depth, into the most conspicuous Vessels of that Part. The Maid had first prepared a Bath for the Feet, into which she had put some Bundles of Mint; this Bath her Mistress made use of. Perhaps, says *Ravi*, *S. Paullus* took that for the true Cause, which had no Influence at all in the Case; for to me it does not seem probable, that Mint should produce any such Effect. *Ravi II. P.*

3. *Mentha*; *rotundifolia*; *spicata*; *rubra*. *C. B. P.* 227. *Menthastrum spicatum, cultum, folio rotundiore, rugoso*. *J. B.* 2. 318. *Silymbria, Mentha, agrestis, sativa* *Mentha Cruciata, conchar* aut *eadem*. *Lob. Obl.* 272.

4. *Mentha*; *crispa*; *verticillata*. *H. Eyfl.* 6. 7. *F. 5* *F. 1* *Mentha rotundiore folio glabro, Pulegi flore*. *M. H.* 3. 360. *Mentha*. 1 *Dod.* p. 95.

5. *Mentha*; *crispa*; *verticillata*. *C. B. P.* 227. *Mentha* 1 *Dod.* p. 95. *Mentha, crispa, verticillata*. *H. Eyfl. Afl.* 6. 7. *F. 5*. *Fig. 1.* *Mentha vulgata, serpens, rotundiore folio, Pulegi flore coronato*. *Lob. Obl.* 271.

Boerhaave seems to make these two distinct Species, but *Dale* thinks them the same, and tells us, that they grow in watery Places

Places, and flower in the Month of *August*. The whole Herb is used. The Powder of it, daily used, is, by *Stockerus*, recommended against a Weakness of the Stomach: And *Etzmüller* commends it against Vomiting.

6. *Mentha*; angustifolia; spicata. C. B. P. 226. *Raii Hist.* 1. 532. *Tourn. Inst.* 189. *Boerb. Ind. alt.* 185. *Mentha*. Offic. *Mentha Romana*. Ger. Emac. 680. *Mentha Romana angustifolia five Cardiacæ*. Park. Theat. 31. SPEAR-MINT.

Spear-mint has many square Stalks, which, in good Ground will grow to be two or three Feet high, having two long sharp-pointed Leaves, set opposite at a Joint, without Foot-stalks, high-vein'd underneath, thinly serrated about the Edges. The Flowers grow in long Spikes, on the Tops of the Stalks, set on Whorles, being small and purplish; having a Galea and Labella so small, that they are hardly perceivable; a white long Pointal standing out of their Mouths. The Root creeps and spreads much in the Earth, being long and slender. The Leaves, Stalks, and Flowers, have a pleasant agreeable Smell: It is planted in Gardens; and flowers in *July*; dying every Year. The whole Herb is used.

Mint is an Herb of great Use in all Disorders of the Stomach, as Weakness, Squeamishness, Loss of Appetite, Pain, Hiccough, and Vomiting: It is, likewise, accounted good to stop a Gonorrhœa, the Fluor Albus, and the immoderate Flux of the Menfes. A Cataplasm of the green Leaves, applied to the Stomach, stays Vomiting; and, to Womens Breasts, prevents the Hardness and Curdling of the Milk. *Parkinson* commends a Decoction of Mint, to wash the Hands of Children, who are broken out with Scabs and Botches.

Officinal Preparations of Mint are a simple Water and Spirit, a compound Syrup, and a distilled Oil. *Miller's Bot. Off.*

The Leaves of Mint put into Milk prevent its Coagulation, so that no Cheese can be prepared of it; they will not even suffer Milk to coagulate in the Stomach: For, which Reason, says *C. Hoffman*, it ought to be in frequent Use with those who feed much on Milk, or have no other Food. Here *Ray* takes Occasion to make the following Reflection: "Milk, says he, received into the Stomach, if that be rightly disposed, must, according to the Order of Nature, coagulate; and, therefore, where the Stomach is sound, and in due Order, there is no Necessity of searching out Remedies for preventing Coagulation, but, only, for the due Regulation of it, where the Stomach is infirm, or abounds too much with an Acid; for though Milk, at its first Reception into the Stomach, be coagulated, yet this Coagulum is again dissolved before it descends into the Intestines, which is not so easily effected, if the Substance be hard and dense beyond a due Degree."

The Juice of this Herb, and its distilled Water, are frequently used, in order to stop Vomiting: Thus, according to *Hartman*, two Ounces of this Water, drank once or twice, stop the most violent Vomiting.

This same distilled Water is much used by Nurses, in order to remove those Gripes with which Infants are so frequently seized. According to *Turner*, the Smell of Mint corroborates the Brain, and not only preserves, but, also, increases, the Memory.

Authors seem to contradict each other, with respect to the Virtues of this Plant; since some affirm, that it proves a Stimulus to Veneries; whilst others maintain, that it prevents Venereal Dreams, and nocturnal Pollutions.

In *England* it is customary to boil Mint with Beans and Peas, in order to correct their flatulent Quality.

Of dry Mint, with an Addition of an equal Quantity of Rue, and a small Portion of Canary-seeds, duly boiled in Vinegar of Ale, is prepared a Cataplasm, which, first, surprisingly resolves Milk coagulated in the Breasts, and, then, totally prevents the Generation of any for the future. This Cataplasm is successfully and promiscuously used by Women in Child-bed.

Want of Appetite is excellently removed by an Elixir of Mint, prepared by Infusion with some proper Spirit, and the Addition of a small Quantity of Sugar. *D. Hulse*, from *Etzmüller. Raii Hist. Plant.*

Mint abounds in a subtle and sedative comforting Oil, which is highly friendly to the Nerves. But its Power of corroborating the Tone of the Stomach and Intestines is not only owing to this Oil, but, also, to a subastringent earthly Principle: For which Reason this Herb, either in Substance, or infused in Water, Wine, or Brandy, is highly beneficial, whether used internally, or externally, in stopping Hiccoughs, Vomiting, immoderate Fluxes, and Colics. I cannot forbear recommending Mint-water, whether prepared with Wine or Water, to the Use of all Families. After the previous Use of Purgatives, I have known inveterate Gonorrhœas, and a Fluor albus, happily removed, only by means of spirituous Mint-water, exhibited in due Quantities. *P. Hoffman de Præst. Remed. Domest.*

7. *Mentha*; angustifolia; spicata; magis serrata. *Mentha quar-ta*. Dod. p. 95.

8. *Mentha*; latifolia; spicata; magis serrata.

9. *Mentha*; arvensis; verticillata hirsuta. See CALAMINTHIA PALUSTRIS.

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10. *Mentha*; arvensis; verticillata; folio rotundiore; odore aromatico. *D. Vernon. Raii Syn.* 123.

11. *Mentha*; hortensis; verticillata; Ocymi odore. C. B. P. 227. *Boerb. Ind. alt.* 185. *Mentha fusca*. Offic. *Mentha fusca five vulgaris*. Park. Theat. 31. *Raii Synop.* 3. 232. *Mentha Cardiacæ*. Ger. 553. Emac. 680. *Mentha verticillata minor acuta, non crispa, odore Ocymi*. J. B. 3. 216. RED MINT.

This Plant is produced in Gardens, and watery Places; and agrees in Virtues with the other Species of Mint. *Dale.*

12. *Mentha*; rotundifolia; palustris; seu aquatica major. C. B. P. 227. *Tourn. Inst.* 189. *Boerb. Ind. alt.* 185. *Mentha aquatica, Silymbrium*. Offic. *Mentha aquatica rubra*. Park. Theat. 1243. *Mentha aquatica five Silymbrium*. J. B. 3. 223. Ger. Emac. 684. *Raii Hist.* 1. 533. *Synop.* 3. 233. *Mentha aquatica*. Ger. 555. WATER-MINT.

This Mint has square, hairy, brown Stalks, about a Foot high, or more, with two pretty large Leaves at a Joint, set on short Foot-stalks, broad at the Basis, and narrower toward the End; serrated about the Edges; of a very strong Smell, somewhat like Penny-royal: The Flowers grow on the Tops of the Stalks, in round Spikes, with one or two of the same, a little lower, on the Stalks, at the Setting on of the upper Leaves: They are somewhat larger than common Mint, of a pale-purple Colour: The Root is stringy and fibrous. It grows in Ditches, and watery Places; and flowers in *July*.

Water-mint is rather hotter than Garden-mint, being carminative, expelling Wind out of the Stomach, and helping the Colic, opening Obstructions of the Womb, and procuring the Catamenia. The Juice, dropped into the Ears, is good to ease their Pain, and help Deafness; but it is not much used. *Miller's Bot. Off.*

The Leaves of this Plant are acrid, bitter, aromatic, and make but a slight Impression upon blue Paper: It has a very aromatic, volatile, oily Salt, is very stomachic and diuretic, and may be used as Tea. *Martyn's Tournefort.*

This Plant is produced in moist Soils, and flowers in the Month of *July*. The Whole of it is used; and in Virtues agrees with the other Species of Mint.

This Plant, as we are told by Mr. *Dale*, was, by an illiterate London Quack, esteemed so powerful a Specific against the Stone, that, when he had Occasion to exhibit it for that Purpose, he retired to his Closet, and cut it so small, that it was no easy Matter to discover what Plant it was. At last a small Quantity of this Arcanum coming into the Hands of one Dr. *Watson*, he sowed it in his Garden, and the Produce revealed the Secret.

This Mint is justly commended against Pains of the Stomach: For which Reason the Water distilled from it is by some called Colic-water. *Dale.*

13. *Menthastrum*; Chalepense; angustifolium; raro florens. *Boerb. Ind. alt. Plant.*

The two first Species are esteemed the most beautiful of all the others, and have both the Taste and Smell of Penny-royal; for which Reason they may be used as a Succedaneum to it. The twelfth Species is commended for its acrid, balsamic, and aromatic Quality; is of an heating Nature, and highly extolled for the happy Effects it produces on the Stomach. *Sydenham* informs us, that he cured Hiccoughs and Vomiting by giving every Hour an Ounce of Mint-water, cold: It is beneficial to Patients afflicted with atrabillarons and hysteric Disorders. In bloody Dysenteries, the Herb bruised, and applied to the Abdomen, is a sovereign Remedy; but is said to destroy that Power to which we give the Name of Virility: But I know not why Authors have asserted this; since I am rather of the contrary Opinion. It is carminative, and excites copious Eructations, as *Martial* tells us,

Nec deest ructatrix Mentha, nec Herba salax.

It cures all Disorders of the Stomach, and Iliac Pains, when proceeding from a cold Cause. It is beneficial in the Scurvy; provokes Urine, and the Menfes. The Herb boiled with Whey, and applied externally to the Face, solicits erysipelatous Swellings, and Inflammations of the Fauces, to the Surface; and, by that means, relieves the internal Parts. A few Drops of the Spirit of Mint, exhibited in *Spanish Wine*, prove an excellent Medicine against Disorders of the Stomach. Externally, the Leaves, or the Spirit mixed with *Rhenish Wine*, are applied to the Abdomen, in order to stop Vomiting. Of the tender Tops an excellent Conserve is prepared; as, also, a Spirit, which exceeds all other Carminatives, and is an excellent Cordial; and an Oil, of which an Eleosaccharum and Balsam are made, which are highly beneficial against Convulsions proceeding from a cold Cause; and are excellent for the Cure of Contusions and Wounds. This Plant, also, kills Worms. *Hist. Plant. Boerb. adscript.*

Besides the foregoing Species of *Mentha*, *Dale* mentions the four following; which are,

1. MENTASTRUM. Offic. Ger. Emac. 684. *Mentastrum spicatum folio longiore candicante*. J. B. 3. 221. *Raii Hist.* 1. 532. *Synop.* 3. 234. *Mentha sylvestris folio longiore*. C. B. P. 227. *Tourn. Inst.* 189. HORSE-MINT.

13 E

This

This wild Mint grows not so tall as the garden Mint, nor so much branched, having square, hoary Stalks, with two long sharp-pointed Leaves, hoary likewise, especially underneath, and serrated about the Edges, without any Foot-stalks. The Flowers grow at the Ends of the Stalks, in long, narrow Spikes, being small and purple. The whole Plant has a strong, but not unpleasant Smell.

Horse-mint is much of the Nature of Water-mint before-mentioned, and is good for the Wind and Colic of the Stomach, to procure the Menfes, and expel the Birth and Secundines, being an Ingredient in the Troches of Myrrh, much used in these Cases. *Miller's Bot. Off.*

2. MENTHA SYLVESTRIS. Offic. *Mentha sylvestris rotundiore folio*. C. B. P. 227. Tourn. Inst. 189. *Mentastrium*. Ger. Emac. 683. *Mentastrium folio rugoso rotundiore, spontaneum flore spicato, odore gravi*. J. B. 3. 219. Raii Hist. 1. 532. Synop. 3. 234. ROUND-LEAVED HORSE-MINT.

This Species is produced in watery Soils. The Whole of it is used, and, according to *Chomel*, is good against Disorders of the Stomach, and those of the hysteric Kind. *Dale*.

3. MENTHA PIPERIS SAPORE. Offic. *Mentha spicis brevibus & habitioribus, foliis Menthae fuscae sapore fervido Piperis*. Raii Synop. 3. 134. *Mentha palustris spicis brevioribus & habitioribus, foliis oblongis, sapore Piperis*. Raii Hist. 3. 284. PEPPER-MINT.

The Leaves of this Mint are broader, and something shorter, than those of Spear-mint, growing on Foot-stalks half an Inch long, sharply serrated about the Edges. The Stalks are square, about two Feet high. The Flowers are numerous, and grow in loose oblong Spikes on the Tops of the Branches; they are bigger than those of Spear-mint, but of the same Colour, and more thickly set. Both Leaves and Flowers have a pleasing Scent, and an hot biting Taste, like Pepper. The Root is slender and creeping; it grows in several Places, both in *Essex* and *Hertfordshire*.

This Mint is esteemed, by some, to be an excellent Remedy against the Stone and Gravel; which seems to be very probable, for, besides its hot and biting, it has, also, a very discernible nitrous Taste. *Miller's Bot. Off.*

4. AURICULARIA. Offic. *Auricularia Indorum ad surditatem efficac.*, EARWORT, vulgo MARLOW *Mentastrium minus*. Ger. Emac. 685. *Mentastrium hirsutum*. Park. Theat. 34. *Mentastri aquatici genus hirsutum spica latiore*. J. B. 3. 222. Raii Hist. 1. 533. Synop. 3. 234. *Mentha palustris folio oblongo*. C. B. P. Tourn. Inst. 189. CYLONIAN PLANT.

Doctor *Marlow*, in his Observations, mentions a Plant under the Name of *Planta Zeylanica*, without any other Description or Characteristic, whereby it may be known, and its Uses derived down to Posterity. Hence 'tis disputed, among Botanists, what Species of Plant this may possibly be; and though the whole of them agree, that it is a Species of Mint, yet what that particular Species is, remains still dubious. Doctor *Plukenet* is of Opinion, that it is a kind of Mint, growing in *Maryland*, which he takes notice of in his *Mantissa*. But Dr. *Sloane* is of Opinion, that it is a certain Species of Water-mint. Nor is this Conjecture improbable, because in some small Portions of this Plant, shewn me by Mr. *Finch*, an Apothecary, in *London*, and Successor to Dr. *Marlow*, I perceived an exquisite Smell of Water-mint; and Mr. *Finch* affirmed to me, that this Plant was produced in *England*, notwithstanding the exotic Name given it by Dr. *Marlow*. *Dale. Pharmac.*

MENTHA AQUATICA. A Name for several Sorts of PULEGIUM; which see.

MENTHA CATARIA. A Name for several Sorts of CATARIA; which see.

MENTHA CORYMBIFERA. See BALSAMITA.

MENTHA FELINA. A Name for the Cataria; major; vulgaris.

MENTHASTRUM. See MENTHA.

MENTULAGRA. A Disorder of the Penis, induced by a Contraction or Convulsion of the *Erectores Musculi*, and inducing Impotence. *Castellus*.

MENTUM. The Chin.

MENYANTHES.

The Characters are;

The Root is perennial, and creeping; the Leaves resemble those of the Bean in Form and Size, three of them growing upon one Pedicle; the End of the Pedicle becomes a monopetalous, quinquefid, and expanded Calyx; the Flower is Funnel-shaped, and deeply cut into Segments; the Insides of which are elegantly fimbriated with white Cirrhi, and they are collected into a *Thyrus*: The Fruit is oblong, bivalvular, unicapular, furnished with a long Tube, and rough Apex, and full of round Seeds lying in the Bottom of the Calyx.

Boerhaave mentions two Species of this Plant; which are, 1. *Menyanthes*; palustre; latifolium, triphyllon. *Tourn. Inst.* 117. *Boerb. Ind. A.* 205. *Raii Synop.* 3. 285. *Trifolium palustre, paludosum*. Offic. *Trifolium palustre*. J. B. 2. 389. C. B. P. 327. *Raii Hist.* 2. 1099. *Trifolium paludosum*. Ger. 1024. Emac. 1194. *Park. Theat.* 1212. *Trifolium fibrinum*. Offic. *Acopa Disco-*

ridis. Hist. Oxon. 3. 604. BUCK-BEAN, or MARSH-TRE-FOIL.

Marsh-trefoil has smooth round Stalks, three or four Inches long, on which grow three longish, round Leaves, somewhat resembling the Leaves of Beans; among these arise Stalks about two Feet high, bare of Leaves, and bearing on the Top a Spike of whitish-purple Flowers, of one Leaf divided into five Segments, whose Inside is covered with a curled Downiness, having five whitish Chives in the Middle, all set in five-cornered Calyces. The Seed is small and brown, growing in roundish Seed-vessels; the Root is long and jointed, with many whitish Fibres at each Joint. It grows in marshy, boggy Grounds, and flowers in *May* and *June*. The Leaves are used.

This is reckoned a great Antiscorbutic, and very serviceable for the Gout, Rheumatism, and Dropsy, and is much used in Diet-drinks for those Distempers. It is likewise a good Stomachic, and is made use of against intermitting Fevers. *Miller's Bot. Off.*

Being analysed, beside some acid Liquors, it yields some concreted, volatile Salt, and a good deal of Earth and Oil. It contains some Sal Ammoniac, wrapped up in Sulphur, and terrestrial Parts; so that it is good for the Scurvy, Gout, Cachexy, and Dropsy. In a Fit of the Gout, give the Patient, every four Hours, a Glass of the Decoction of this Plant. *Martyn's Tourn.*

Simon Paulli commends it greatly in scorbutic Cases, and says 'tis more subtle and penetrating than the *Nasturtium*. *Bartholine*, also, just mentions it. It seems, at this time, to be coming into great Repute in many chronic Distempers. Many use it in their Families in the Form of Tea; and experience its constant Use to be very effectual against Scrophulas, the King's-evil, and all obstinate scorbutic Distempers. Its Taste, at first Use, is not very grateful, being somewhat of a nauseous Bitter; but Time wears off that Dislike.

2. *Menyanthes*; palustre; angustifolium; triphyllon. T. 117. *Trifolium, palustre, minus, acutiori folio*. C. B. P. 327. *Boerb. Ind. alt. Plant.*

MENTZELIA.

The Characters are;

It hath a Rose-shaped Flower, consisting of several Leaves, which are placed in a circular Order, and rest on the Flower-cup, which afterwards becomes a membranaceous tubulous Fruit, containing many small Seeds.

Miller mentions but one Sort of this Plant; which is,

Mentzelia foliis & fructibus asperis. *Plum. Nov. Gen.*

The Name was given to this Plant by Father *Plumier*, who discovered it in the *French Settlements*, in Honour to Dr. *Mentzelius*, who was Physician to the Elector of *Brandenburgh*, and who published an Index of Plants in *Latin*, *Greek*, and *High Dutch*.

This Plant grows plentifully in the Island of *Jamaica*, but I know of no medicinal Virtue ascribed to it.

MEPHITIS. A poisonous Exhalation; or what the Miners call a Damp. Dr. *Mead*, speaking of Mephitical Exhalations, says, that it is notorious, that People may be poisoned by venomous Steams, and Exhalations, or a poisonous Air, taken into the Body by the Breath.

And Authors, upon many Occasions, make mention of it; but, when they come to explain the particular Manner how this kills, they most commonly reduce it to some of the Poisons which prove destructive, by being admitted into the Stomach, alleging, that malignant Fumes and Airs are, therefore, fatal, because impregnated with Arsenical, Mercurial, and the like deleterious *μικροματα*, or Particles, that convey these into the Blood; which, being of a very corrosive Nature, must necessarily do Hurt both to the fluid and solid Parts.

And indeed, that the Fumes of these same Minerals are very pernicious, and Air filled with their Atoms very unfit for Respiration, is most certain: But to argue from hence, that all deadly Vapours, and malignant Airs, owe their Mischief to these only, is too fond and ill-grounded a Conceit; since, upon a due Inquiry, it will appear, that there may be, and are, mortiferous Exhalations from the Earth, infecting the Air, of a Nature so different from any of those Poisons, that the very Substance, from which they arise, may not be at all hurtful, though taken into the Stomach itself.

Venomous Steams and Damps from the Earth, the *Latins*, in one Word, called *Mephitis*.

This, as many other *Tuscan* Words, comes from a *Syriac* Theme, which signifies to blow or breathe.

And in ancient Times several Places were notorious for them: So the *Mephitis* of *Hierapolis* was very famous, of which *Cicero*, *Galen*, but more particularly, and from his own Sight and Knowledge, *Strabo* makes mention.

Such another was the *Specus Corycicus* in *Cilicia*, which upon the Account of its stinking deadly Air, such as is thought to proceed from the Mouth of Dragons, which the Poets give to *Typhon*, was called *Cubile Typhonis*. This *Pomponius Mela* describes, and it is, indeed, as ancient as *Homer*; for *Arima*, in which he places it, was, as *Eusebius* says, a Mountain of *Cilicia*.

Neither

Neither are such Fumes as these infrequent now-a-days; and though mostly taken notice of in Mines, Pits, and other subterraneous Places, yet they are sometimes met with on the Surface of the Earth too, especially in Countries fruitful of Minerals, or impregnated with imbowelled Fires: Such are *Hungary* and *Italy*, which latter, as *Seneca* observes, has always been, more than any, remarkable for them.

I shall therefore, having had the Opportunity of making some Remarks upon one of the most famous in all these Parts, give as good an Account as I can of that, and its manner of killing; which though I dare not affirm to be universally applicable to any *Mephitis* whatsoever, yet seems plainly to be the Case of most of them; and where it is not, this simple Mischief will only be found to be complicated with another; and then some extraordinary Symptoms or Appearances in the Animals killed will easily make a Discovery of the additional Venom and Malignity.

This celebrated *Mofeta*, taken notice of, or at least some other hereabouts, even in the Time of *Pliny*, is about two Miles distant from *Naples*, just by the *Lago d'Agnano*, in the Way to *Pozzoli* or *Puteoli*; and is commonly called *La Grotta de Cani*, because the Experiment of its deadly Nature is frequently made upon Dogs; though it be as certainly fatal to any other Animal, if it come within the Reach of its Vapour; for *Charles* the Eighth of *France* proved it so upon an Ass; and two Slaves put into it, by Order of *D. Pietro di Toledo*, Viceroy of *Naples*, with their Heads held down to the Earth, were both killed.

'Tis a small Grotta, at the Foot of a little Hill, about eight Feet high, twelve long, and six broad; from the Ground arises a thin, subtle, warm Fume, visible enough to a discerning Eye, which does not spring up in little Parcels here-and-there, but is one continued Steam, covering the whole Surface of the Bottom of the Cave; and has this remarkable Difference from common Vapours, that it does not, like Smoke, disperse itself into the Air, but quickly after its Rise falls back again, and returns to the Earth; the Colour of the Sides of the Grotta being the Measure of its Ascend; for, so far, it is of a darkish-green; but, higher, only common Earth, and this is above ten Inches. And, therefore, as myself found no Inconvenience by standing in it, so no Animal, if its Head be kept above this Mark, is in the least injured: But when (as the manner is) a Dog, or any other Creature, is forcibly held below it, or by reason of its Smallness can't hold his Head above it, it presently, like one stunn'd, loses all Motion, falls down as dead, or in a Swoon, the Limbs convulsed, and trembling, till, at last, no more Sign of Life appears than a very weak, and almost insensible Beating of the Heart and Arteries, which, if the Animal be left there a little longer, quickly ceases too, and then the Case is irrecoverable; but if snatched out, and laid in the open Air, soon comes to Life again; and sooner, if thrown into the adjacent Lake.

In this short, but accurate History of the *Grotta de Cani*, I have set down those Particulars, which do not only distinguish Mephitical Exhalations from common and innocent Fumes, but, also, give Hints sufficient, I think, mechanically to determine the Reason and Manner of their surprising Effects.

And, not to spend Time in refuting the Opinions of others, I shall only take notice, that here can be no Suspicion of any true Venom, or real Poison: If there was, it were impossible, that Animals taken out of the Grotta, should so immediately recover the Effects of it, without any remaining Appearance of Faintness and Sickness, or such-like Symptoms as those suffer, who have been breathing in an Air impregnated with malignant corrosive Effluvia; besides that the venomous Corpuscles would certainly, in some degree, at least, infect the Air in the upper Part of the Cave, which continues pure, and fit for Respiration. Neither, indeed, after what manner soever this Poison be imagined to act, whether by dissolving or coagulating the Blood, could its Efficacy be so sudden and momentaneous, without some Marks of it in the Creatures kill'd, when opened, which yet discover nothing of this Nature extraordinary, neither in these, nor in the solid Parts.

In order, therefore, to understand wherein this deadly Quality consists; I say, in the first Place, that Life, so far as it respects the Body, is, in one Word, the Circulation of the Blood; that is, its Motion in conical, distractile Vessels, from the Heart to the extreme Parts, and its Return to the Heart again, by the same Canals inverted; for 'tis upon this that all animal Functions, all Sense and Motion, voluntary and involuntary, depend; so that the Regularity of this Course is the Measure of Health, or the most perfect Life, as its various Irregularities are the Occasions of Sickness and Diseases, or a beginning Death.

Now all the animal Operations and Offices which proceed from this Circulation, are the Effects of several Secretions of Liquors of very different Natures, out of the same fluid Mass: It was, therefore, absolutely necessary, that the Blood, before it be distributed to the Organs, should be so comminuted and broken, as that no Cohesion of its Parts should hinder the Separation of the Juices from it, when it arrives with a determinate Force at the Orifices of the secretory Vessels.

This Work is done in its Passage through the Lungs, by the repeated Compression of the Air in those Bladders upon the Arteries with wonderful Contrivance dispersed among them. Herein lies the Use and Necessity of Respiration; and the sudden Mischief of stopping it, in that the whole Mass of Blood being to pass this Way, upon a Check here, there presently ensues a Stagnation, that is, a Cessation of all animal Functions, or Death; which will be more speedy, if not only no Air is inspired, but a Fluid of a quite different Nature from it succeeds in its Place.

Wherefore it must be observed, that this good Effect of the Air is performed by its Elasticity; and that no Fluid whatsoever, that we know besides, is elastic, at least to any considerable Degree, that is, has a Faculty of expanding and dilating itself when compressed; no, not Water, as near as that is thought to approach to Air in its Nature.

And, as to the present Case, I took notice before, that this Vapour is one continued and uninterrupted Steam; and that, quickly after its Rise, it falls down again; that is, that it has little or no Mixture of Air with it, or no Elasticity; and is, on the other hand, very heavy, when forsaken by the Force of Heat, that drove it upwards.

So that I make no Question, but that Animals in this Place, instead of Air, inspire mineral Fumes, that is, a thin watery Vapour, impregnated with such Particles as do, when united together, compose solid and heavy Masses; which is so far from helping the Course of the Blood through the Lungs, that it rather expels the Air out of the Vesiculæ, and straightens the Passage of the Blood-vessels, by its too great Gravity; whereupon the Bladders are relaxed, and subside, and the Circulation is immediately interrupted. But if the Animal be, in time, removed out of this Steam, that small Portion of Air, which does, after every Expiration, remain in the Vesicle, may be powerful enough to drive out this noxious Fluid; especially if the Head of the Creature be held downwards, that so its Gravity may forward its Expulsion; or it be thrown into Water, which by assisting, upon the Account of its Coldness, the Contraction of the Fibres, promotes the retarded Circulation of the Blood; as we every Day experience in a *Deliquium Animi*, or swooning Fit.

Though, if this Stagnation continue too long, no Art can renew Life, no more than in one perfectly strangled, nor will the Lake of *Agnano* itself be of any Service; which shews that there is no singular Virtue in that Water beyond any other; nor is it, as some have fondly imagined, a peculiar Antidote to the Poison of the *Grotta*.

The bad Effects of such Fumes as this will be the more certain, because the inspired mineral Particles twitch and irritate the Membranes, which are hereupon contracted to that Degree, as not to be able to recover their Tone; and so the Force and Action of the Lungs is quite lost.

It appears from all this not to be at all necessary to make any farther Inquiry into the particular Nature of these mineral Particles, since they do, in this Case, act chiefly by their Gravity, which is common to them all: Though, indeed, the greenish Colour of the Earth, together with its subacid Taste, very much (as *L. di Capoa* observes) like to that of the Phlegm of Vitriol, seem to declare them, if not altogether, yet principally, at least, to be vitriolic.

To conclude this Part of our Discourse; I think it a sufficient Confirmation of this Reasoning, that in Frogs, killed in this Grotta, the Bladders of the Lungs (more visible in these Creatures than in most others) were found subsided, and quite empty of Air. But, if any one desires a further Proof, he may, according to these Principles, make (as *Lionardo di Capoa* did) an artificial *Mephitis*; for if Antimony, Bismuth, or any other such Mineral, be finely powdered, and moistened with Aqua-fortis, or Spirit of Nitre, there will arise a great Heat, and a thick, dark Smoke, in which, as in the *Grotta di Cani*, Torches are extinguished, and Animals, though but slowly, stifled and killed. And this Effect will be more sensible, and equal to the most violent Mephites, if the Antimony or Marcasite be mixed with Bitumen, and the Spirit of Nitre, or Aqua-fortis, intirely depurated from all its Phlegm.

Thus I have shewn how Death may enter at the Nostrils, though nothing properly venomous be inspired. It were, perhaps, no difficult Matter, to make it appear, how a lesser Degree of this Mischief may produce Effects, though seemingly different from these now mentioned, yet in Reality of the same pernicious Nature; I mean, how such an Alteration of the common Air, as renders it in a manner mephitical, that is, increases its Gravity, and lessens its Elasticity, (which is done by too much Heat, and at the same time too great a Proportion of watery and other grosser Particles mixed with it) may be the Cause of epidemic Diseases, and, it may be, more especially of those, which, by reason of their untoward Symptoms, are usually called malignant.

For it is very remarkable, that *Hippocrates* observed the Constitution of the Air, which preceded pestilential Fevers, to be great Heats, attended with much Rain, and Southern Winds; and

and *Galen* takes notice, that no other than a moist and hot Temperament of the Air brings the Plague itself; and the Duration of this Constitution is the Measure of the Violence of the Pestilence. *Lucretius* is of the same Mind; for, in his admirable Description of the Plague of *Athens*, *These Diseases*, says he, *either come from the Air, or arise from the Earth.*

— Ubi Putrorem humida nacta est
Intempestivis Pluviusque, & Solibus icta.

In short, the general Histories of epidemic Distempers almost constantly confirm thus much, and would have done it more, if the vain Notion of occult Venoms had not prepossessed the Minds of Authors, and made them regardless of the manifest Causes.

This is notorious enough in those Countries where malignant Diseases are most rife: Thus it is a very common Observation in the *East Indies*, that during the dry Heats the Season is healthful; but, when the Rains fall, immediately upon the hot Weather, then untoward Fevers begin to threaten.

The same is observed in *Africa*; for, (as *Joan. Leo* relates) if Showers fall there during the sultry Heats of *July* and *August*, the Plague and pestilential Fevers ensue thereupon, with which whoever is infected hardly escapes.

And here I might, by reflecting on the Use and Necessity of Respiration, and the particular Manner of performing it, (of which I have hinted something already) and considering withal the true Nature of Fevers, easily shew how such a Constitution of the Air, as this is, must necessarily produce such Effects; might run over the Propositions of *Bellini*, which, as they plainly evince malignant and pestilential Fevers to be owing to a viscid and tenacious Lensor, or Slime, which first obstructs the capillary Arteries, and, afterwards, being dissolved by Heat, ferments with the Blood, and changes it into a Mass unequally fluid and glutinous, and, therefore, unfit for all the Operations of the animal Oeconomy; so it would be no uneasy Task to prove, that Air, at the same time hot and moist, being less able to comminute and break the arterial Fluid in the Lungs, than is necessary, in order to prepare it for Secretions; it is no Wonder, if, when the Blood, passing through the capillary Vessels, arrives at the secretory Organs, the Cohesion of its Parts not being sufficiently removed, instead of deriving several Juices out of it into the Glands, it leaves its most glutinous and viscid Parts sticking about the Orifices of these Vessels; which, though they may, at first be washed away by the repeated Impulses of the succeeding Blood, yet, the Cause continuing, and these Strokes growing still weaker and weaker, (from a lesser Quantity of Spirits being separated, and hence a more languid Contraction of the Heart) these Obstructions are increased to that Degree as not to be removed, till, by the violent Agitation of a greater Heat, this slimy Mucus is thrown into the Blood again; and there, in the Nature of a Ferment, so disturbs its Mixture, and changes its Compages, as to make it a Fluid of quite different Properties, that is, altogether unfit for the same Functions or Offices.

This Effect will be the more certain, because a damp Air upon the Surface of the Body checks insensible Perspiration, so that a great Quantity of this being detained, the Obstructions are still greater in the small Tubes; whereas, indeed, upon the account of a more than ordinary Heat, this Discharge ought to be in an increased Proportion.

Such a Disposition of the Blood as this the Antients called putrid; and, to speak plainly, it is a beginning Stagnation, with a succeeding Heat and Fermentation.

Nor would it be amiss here to take notice, how unjustly some Authors have quitted the Consideration of plain Causes, for occult Venoms, and *Deleterium quid*; have brought in the *ἄσυν τι* (*something divine*) of *Hippocrates*, to favour their fond Hypothesis; though his best interpreter, *Galen*, understood by this Expression no such thing as they mean; but, on the other hand, only the manifest Constitution of the ambient Air, such as himself has described in his Aphorisms, and which is exactly the same with what we have been discoursing of.

And, therefore, not only does *Minodorus* rightly remark, that, in his whole *Epidemics*, *Hippocrates* never once mentions any Venom or Poison as the Cause of malignant Diseases, but the divine old Man himself, in another Treatise, expressly teaches us, that all Maladies equally, or one as much as another, proceed from the Gods, there being nothing more divine in this than in that, each acknowledging its own natural and manifest Cause.

But I willingly wave insisting upon these Heads, as well as the Hints which might be taken from this Theory, of some Use, perhaps, in the Cure of these Distempers; and leave to our Physicians to judge upon how good Grounds they do, in Cases of this Nature, under the Notion of Alexipharmics, give such Medicines as raise a great Heat, both in the Stomach and Blood; only praying them to take care, lest, while they are engaging the animal Spirits in War with Malignities, they send treacherous Auxiliaries to the supposed weak Party; that is, that they either raise new Tumults and Disorders, of worse Consequence than the original Mischief; or, at least, by clogging the Wheels, and

throwing Dust upon the Springs, of the first Machine in the Creation, check and interrupt the Action of Nature, when it is employed about the most nice and critical Work.

Neither can I, though an Occasion be fairly offer'd, by any means be induced to intermeddle in the Controversy of those Gentlemen, who, by the Help of two Words, are made Masters both of Philosophy and Phylis; I mean the violent Assertors of *Acid* and *Alkali*: These scanty Principles fall infinitely short of that vast Variety there is in the Works of Nature; however, for their sakes who are as yet advanced no farther, I will advise the contending Parties (because little Good is got by quarrelling) to think of an Union; and, if they can find no Remedies but out of these two Tribes, to make use of such as result from a prudent Mixture of each; if this Project does not take, to resolve, however, on both Sides, to distinguish the different Times of the same Disease, and know, that as, on the one hand, acid Medicines are often as certainly hurtful in the latter End, as they do Service in the Beginning, of the Fever; so, on the other, those which are alcalious must necessarily, for the same Reason, do Mischief in the first Periods, for which they are profitable, in the last Days of the Distemper.

By what Mechanism this comes to pass, they will easily understand, when they have learned what Alteration such things as these are, make in the human Body; nor will it then be a difficult matter to convince them, that he is equally a fond Slave to an Hypothesis, who, because Acids are sometimes of great Service in Fevers, concludes, that their Origin is alcalious, as he, who, knowing that stagnating and fermenting Juices do easily turn to Acidity, from thence argues, that Alcalies are the only Cure of this Stagnation and Ferment.

But Dr. *Pitcairn* has abundantly demonstrated the Weakness of these Mens Reasonings, and the Vanity of such immechanical Theories.

And here I would put a Period to this Part of the Discourse, were it not that these Distempers being sometimes contagious, and Contagion being justly reputed a real Poison, it may be worth while to examine what this is, and wherein it consists; more especially, because some may, perhaps, be ready to think this to be an Argument of an occult Venom being the first and original Cause.

We are, therefore, to take notice, that when a Fever is communicated by way of Infection from one already diseased, this most commonly happens in the latter End of the Distemper, that is, when the fermenting Blood is throwing off great Quantities of its active fermentative Particles upon the Glands of the most constant and easy Secretion; such are those in the Surface of the Body, and the Mouth and Stomach: By these means, therefore, the Liquid of insensible Perspiration, and the Sweat, is impregnated with these *μικροβια*; and thus the ambient Air becomes filled with them; so that not only (as *Bellini* argues) may some of these Effluvia insinuate themselves into the Blood of a sound Person through the Pores of the outward Skin, but, also, in Inspiration through the Membranes of the Lungs; for he has, in another Place, demonstrated how the Air, or something from it, may this way come to be mixed with the arterial Fluid; and thus the like Ferment will be raised here, as was in the originally distempered Subject.

This may be one, but there is, perhaps, another yet more dangerous manner of Infection, and that is, by the Breath of the Diseased taken in by a By-stander, especially in the last Moments, seizing the Stomach, and fixing a Malignity there. For it is upon this score, that those who are infected do presently complain of an extreme Pain and Nausea in the upper Orifice of the Stomach, that all Authors agree in the admirable Use of Vomits, timely given, in this Case; these, by their stimulating Force, removing the very Minera of the Disease; and, likewise, that often in pestilential Illnesses, the Stomach, when opened, has been found gangrened and mortified: This made *Van Helmont*, who had observed this Part in one killed by a Plague-Infection, perforated and eroded in several Places, no otherwise than he had seen in one poisoned by Arsenic, conclude, that the Plague, for the most part, begins in the Stomach, from a coagulated Tartar there.

Herein lies the Difference of Contagion, from the first Invasion of malignant Distempers: The Effects of the one are the Cause and Beginning of the other; and, therefore, it is no Wonder, if, though the Symptoms in the former are, by a gradual Increase, wrought up to their Height, they do, however, in the latter, even at the very first, discover their ill Nature and Violence, and, like a re-inforced Enemy, by surer Strokes, make quicker Dispatch. And this, also, is the Reason of the great Increase of Funerals in Plague-time, in that one Death is thus added to another.

If it be difficult to explain the particular Manner how the Stomach comes to be thus affected, we must not, therefore, deny matter of Fact; and may, however, probably conjecture, that the last Breath of one dying of a malignant Distemper proves thus pernicious, in that those fermenting active Particles, which, as we just now observed, the Blood discharges upon the Glands of the Mouth, Stomach, Lungs, &c. impregnating the Air in

its Passage through these; when the same happens to be immediately inspired by a sound Person, it may easily taint the salival Juices in the Mouth, which are very glutinous, and of a fermenting Nature, and, therefore, susceptible enough of contagious Effluvia, but, especially, of such as proceed from the same Liquor infected in the sick Party. Now the Spittle is continually swallowed down into the Stomach, and so will quickly impress its Laves, or ill Quality, on so tender and sensible a Part; that is, will lodge these corrosive Salts (for such we may suppose the Particles of Infection) in the secretory Ducts: Whereupon the Glands being obstructed, little Tumors are, by the Afflux of their Fluid, raised here-and-there, which, breaking, become small Ulcers, and produce that dismal Train of Symptoms, which we have already related.

And here it may not be amiss to take notice, that all Authors agree one great Cause of pestilential Distempers, especially in Armies and Camps, to be, dead Bodies lying exposed and rotting in the open Air; the Reason of which is plain, from what we have been advancing: For Battles being generally fought in the Summer-time, it is no Wonder if the Heat acting upon the unburied Carcasses, and fermenting the Juices, draws forth those active Particles, which in great Quantities filling the Atmosphere, when they are inspired, and let into the Stomach, do affect it after the manner already described.

To illustrate this Matter, I shall relate a remarkable Story, told me by the late Dr. *Baynard*. The Body of a Malefactor was hung up in Chains in the Country. After a few Months, in very hot Weather, it was Sport and Pastime to some Boys, playing thereabouts, to swing the Carcase up and down: One, more bold than the rest, struck it with his Fist upon the naked Belly, which, being outwardly parched and dry, and, from the Falling down of the Humours, swelled and tense, was easily burst by the Blow: Out gushed a Water so corrosive and fiery, that, running down the poor Lad's Arm, it caused a violent Excoriation, and a very hard matter it was to preserve it from being truly mortified. What this Serum could do upon the outward Skin, the more volatile Parts of it would, without all doubt, effect upon the more tender and sensible Membranes of the Stomach, if a considerable Number were fixed there; the Fluids of human Bodies being ranker, and more abounding in active Salts, than those of other Creatures, which are not continually repaired and nourished by the Juices of Animals.

The Way by which bad Food, unripe Fruits of the Earth, &c. produce malignant and pestilential Diseases, is not very different from that by which we have observed unwholesome Airs to be the Cause of the like Effects. For the Juices with which those supply the Blood, being corrupted, necessarily make a Fluid of quite other Properties than what the animal Oeconomy requires; that is, neither fit for Nutrition, nor for the Secretion of those Liquors which in the several Organs are to be derived from it; whereupon the small Tubes are obstructed by an unequally glutinous Slime: And it is, therefore, no Wonder, if, besides the other Symptoms ensuing, fore Pustules, Inflammations, Ulcers, &c. (more common in Fevers from this Cause than from any other) are raised on the Surface of the Body.

This is the Ground of the common Observation, that a Famine is very often succeeded by a Pestilence. And this Calamity generally begins among the poorer Sort of People, whose Diet, to be sure, is the worst.

The chief City of *Surat*, in the *East Indies*, is seldom or never free from the Plague; and yet it is observed, that the *Englisb*, who trade there, are in no Danger of being infected by it. Now the chief of the Natives in this Place are *Banians*, who neither eat Flesh, nor drink Wine, but live very poorly upon Herbs, Rice, Water, &c. and most of the Inhabitants do the like, except Foreigners. This poor Fare, together with the Heat of the Climate, makes them so liable to malignant Distempers; from the Attacks of which those who feed well are more safe and secure.

Thus much concerning poisonous Exhalations and Airs, so far as the Consideration of the *Grotta de Cani* has led us on to inquire into their Effects; for though there may be other Alterations of this same Element, differing in their Nature from this we have insisted on, and yet equally pernicious and hurtful, yet we take no notice of any of them, in regard that those which are from arsenical, mercurial, and the like Fumes, are reducible to another Species; and those which proceed from a Change of the known Properties of the Air, may be easily explained by what has been already delivered about this. I shall, therefore, rather chuse to make some Remarks on the Mischief of another Fluid, which, as it is the next in Use to this we have been treating of, so the bad Qualities of it, when it comes to be mixed, must necessarily be almost equally fatal and dangerous.

I mean Water, which is of so constant Service, not only for our Drinks, but, also, in preparing of our Flesh and Bread, that it may justly be said to be the Vehicle of all our Nourishment; so that whenever this happens to put on other Properties than are necessary to fit it for this Purpose, it is no Wonder if, in its Passage through the Body, these make suitable Impressions there.

Thus, at *Paris*, where the River *Seine* is so full of stony Corpuscles, that even the Pipes, through which it is carried, are incrusted and stopped by them, the Inhabitants are more subject to the Stone in the Bladder, than in most other Cities. The same I have observed in the Baths of *Abano*, a few Miles from *Padua*, to that Degree, that it is necessary very frequently to clear the Wheel of a Mill, driven by the Current of these Springs, from the great Quantity of petrified Matter with which it is from time to time incumbered.

In like manner, let the gross Particles, with which the Water is saturated, be of any other Nature, metallic, salt, &c. these, according to their various Gravity, the Capacity of the Canals, and such-like Circumstance, will, when they come to circulate in the animal Body, be, by the Laws of Motion, deposited on one Part or other. So those mineral Bodies, and nitrous Salts, which abound in the snowy Waters of the *Alps*, so certainly stuff and enlarge the Glands of the Throat in those who drink them, that scarce any who live there are exempted from this Inconvenience.

For this Reason, the Choice of Water, for Drink, among the Antients, was by Weight; the lightest being preferred, as most free from all heterogeneous Bodies.

The Cause, therefore, of poisonous Springs, is their having corrosive Corpuscles mixed with their Water; which cannot fail, when forsaken, in the Canals of the Body, of their Vehicle, to do the same Mischief as they would if taken by themselves undiluted, only with this Difference, that they may in this Form be carried sometimes farther into the animal Oeconomy, and so, having passed the Primæ Viæ, discover their Malignity in some of the inmost Recesses. Thus the *Fons Ruber* in *Ethiopia*, mentioned by *Pliny*, about which abundance of native Minium, or Cinnabar, was found, shewed its ill Effects chiefly on the Brain; and therefore *Ovid* says of it,

— Si quis Fauces hausit,
Aut furit, aut patitur mirum Gravitate Soporem.

We shall not need to enlarge on this Matter, since any of the before-mentioned mineral Poisons may thus impart their deadly Quality to Waters; and accordingly there are Instances of arsenical, mercurial, &c. Fountains, of which the Histories may be seen in the Collections of the learned *Baccius*, and one very remarkable in the *Philosophical Transactions*, N^o. 8.

But, as we before took notice concerning Airs, so it may be worth the while to observe of Waters, that there are some Alterations of them, which, though not properly poisonous, yet are of so great Consequence in their Effects, that they may very well deserve to be regarded.

This I shall do with respect to a great Abuse committed in this Kind, about the City; and that is, in the chusing of stagnating impure Well-water for the Brewing of Beer, and making other Drinks. Such a Fluid, indeed, has oftentimes a greater Force and Aptness to extract the Tincture of Malt, than is to be had in the more innocent and soft Liquor of Rivers; but for this very Reason it ought not, unless upon mere Necessity, to be made use of. This Quality becomes owing to the mineral Particles, and aluminous Salts, with which it is impregnated.

A late Author, by searching into the first Accounts of the Distemper we call the *Scurvy*, described by *Pliny* and *Strabo*, under the promiscuous Names of *Stomachace* and *Scelotyrbe*, and examining the authentic Histories of it in later Years, made by the most observing Physicians in those Countries where it was unhappily revived, as *Olaus Magnus*, *Baldunus*, *Ronsseus*, *J. Wierus*, *Solomon Albertus*, and others, finds that the Origin of it was in all Times and Places charged upon the Use of unwholesome stagnating Waters. Then, by comparing together the clayey Strata of the Earth about the Cities of *London*, *Paris*, and *Amsterdam*, he shews that where the Water is worst, there the Malady is most rife: So that he has put it out of all doubt, that most of the perplexed and complicated Symptoms, which are ranged under this one general Name, if they do not entirely owe their Birth to the Malignity of this Element, do, however, acknowledge it to be their main and principal Cause.

And, indeed, *Hippocrates* himself, as he has very plainly decyphered this Disease, by the Title of *Πleuris μέγας*, or *Great Spleen*; so he does very particularly, in another Treatise, take notice, that drinking of stagnating Well-waters must necessarily induce an ill Disposition both of the Spleen and Belly.

If we inquire into the Reason of such ill Effects, we must consider, that Clay is a mineral Glebe; and that the gross Particles, and metallic Salts, with which Waters passing through such a Bottom do abound, are, as Dr *Lifter* observes, not to be mattered; that is, indigestible in the human Body. Not only, therefore, will these cause, as he very well argues, calculous Concretions in the Kidneys, Bladder, and Joints, and, as *Hippocrates* experienced, hard Swellings in the Spleen; but they must necessarily, oftentimes, by their corrosive Quality, twrench and murther the sensible Membranes of the Stomach and Bowels, and thus hinder and interrupt the Digestion of our Food. Nay, besides all this, when they come into the Blood, it is no Wonder, if the small Canals of intemperate Perspiration are frequently stopp'd and obstructed

obstructed by them; for it is upon this score that *Sanctorius* teaches us, that heavy Water converts the Matter of Transpiration into an Ichor, which, being retained, induces a Cachexy.

What Mischiefs will ensue hereupon, every one sees; not only Pains in the Limbs, livid Spots in the Surface of the Body, Ulcers, &c. from the Acrimony of the undischarged Moisture; but many besides of those perplexing Symptoms which go by the Names of *hysterical* and *hypochondriacal*, may take their Rise from the same Source; for the before-cited *Sanctorius* has remarked, that the Flatus, or Wind, so inseparable from those Cases, is no other than the Fluid of Perspiration rude and unfinished.

If these Inconveniences are oftentimes not felt, at least not till towards the declining Age, in strong and active Habits of Body; yet I am, from very good Experience, assured, that they deserve Consideration in weaker Constitutions, and a sedentary Life, especially of the more tender Sex.

I have the Honour to be nearly related to a worthy Person, who led formerly an afflicted Life from the frequent Returns of violent colic Pains, till she was, with happy Success, advised by the noble *Van Helmont* not to drink (as she then did) Beer brewed with Well-water; and her Health is even now so far owing to this Management, that an Error in it is unavoidably followed with the wonted Complaints.

For these Reasons *Pliny* tells us, that those Waters are condemned in the first Place, which, when boiled, incrustate the Sides of the Vessels; and that our Well-waters do this, nobody, who looks into the Tea-kettles of our Gentlewomen, can be ignorant.

And, indeed, in antient Times, when Physic was more a Science, which is now more a Trade, as that Part of it which relates to Diet was more carefully studied than it is now-a-days; so this Point particularly, of which we are treating, was of so great Moment, that *Hippocrates*, who wrote the best Book on the Subject that ever was published, has, in a great measure, accounted not only for the Diseases, but even for the Temper and Disposition of the People of several Countries, from the Waters with which Nature has supplied them. *Meadon Poisons*.

MERCURIALIS, Mercurial. An Epithet of all Preparations of Mercury. But the *Atra Bilis* is, also, call'd the Mercurial Humour; and the Diseases thence generated are nam'd Mercurial Diseases.

MERCURIALIS.

The Characters are;

The Leaves are crenated, and grow by Pairs opposite. The Cup of the Flower consists of one Leaf, which expands, and is cut into three Segments; these are male and female in different Plants: The Flowers of the male grow in long Spikes, and consist of many Stamina and Apices, which are loaded with Farina: The Ovary of the female Plant becomes a testiculated Fruit, having a single round Seed in each Cell.

The Species of *Mercury* principally us'd in Medicine are the following;

Mercurialis; testiculata; five mas *Dioscoridis* & *Plinii*. C. B. P. 121. *Tourn. Inst.* 534. *Boerb. Ind. A.* 2. 106. *Mercurialis*. Offic. *Mercurialis mas & femina*. Ger. 262. Emac. 332. Park. 295. J. B. 2. 977 *Rai Hist.* 163. *Mercurialis annua glabra vulgaris*. *Rai Synop.* 54. **FRENCH MERCURY.**

French Mercury grows about a Foot high, full of smooth angular Stalks, beset with narrow Leaves, about an Inch and half long, broadest in the Middle, and sharper at both Ends, indented about the Edges, of a pale-yellow, green Colour. The Flowers are small and staminate, of a greenish Colour, growing in Spikes, which arise from the Bosom of the Leaves: Those of the female fall off without any Seed. The male has a couple of testiculated Seeds at the End of the Spike. The Root is fibrous, and perishes after it has flower'd, and given Seed; it grows frequently in Gardens, and in waste Places, and among Rubbish.

The Leaves and Stalks are used, and are aperient and mollifying; the Decoction thereof purges choleric and ferous Humours, it is mostly used in Clysters. *Matthioli* commends a Decoction of the Seeds with Wormwood, for the yellow Jaundice. The Juice takes away Warts. *Miller's Bot. Offic.*

Pena, *Lobel*, and *J. Bauhine*, found something nitrous in this Plant; it is of an herby Taste, a little saltish, and gives no Tincture of red to blue Paper. I believe the great Quantity of Sulphur, with which it abounds, hinders the Sal Ammoniac from manifesting itself; for, by the Chymical Analysis, it yields a great deal of volatile concrete Salt, Oil, and Earth. *Hippocrates*, *Dioscorides*, and *Galen*, agree that this Mercury is purgative; the Syrup made with its Juice is laxative and aperitive. The Water, in which it has been macerated cold for twenty-four Hours, is given for the Dropsy, Cachexy, Vapours, and Green-sickness: This Plant is used in Semicupiums for the Suppression of the Terms; for it is very emollient also; and they make those Persons who are believed to be barren, take three Ounces of its Juice depurated, and mix'd with two Drams of Tincture of Steel. This Mercury is employ'd in the *Syrup de longus Tre*. This is the manner of making it:

Take twelve Pounds of *Narbonne Honey*, eight Pounds of the Juice of Mercury, and two Pounds of that of Borrage in a Kettle; set it upon the Fire, and mix the Juice, and the Honey, with a wooden Spatula, and strain them without letting them boil; then add three Pints of white Wine, in which four Ounces of Gentian-root have been infused for twenty-four Hours. Then set the Kettle again upon the Fire, and mix the Juices with the Wine, and Pieces of Gentian; strain thro' the same Bag without letting it boil; after this boil the strained Liquor to the Consistence of a Syrup.

Take a Spoonful of it in the Morning fasting, and eat nothing for two Hours after; it keeps the Belly open, purifies the Blood, and keeps away the Gout, Sciatica, and such-like Diseases. This Plant is an Ingredient in the lenitive Electuary, in the *Catholicum* of the Description of *Du Verney*, and in the ordinary Decoction for laxative Clysters. *Martyn's Tournesfort*.

Mercurialis; montana; testiculata; & spicata. C. B. P. *Tourn. Inst.* 534. *Boerb. Ind. A.* 2. 106. *Cynocrambe*. Offic. Ger. 263. Emac. 333. *Cynocrambe mas & femina*, sive *Mercurialis repens*. J. B. 2. 979. *Cynocrambe mas & femina*. *Rai Hist.* 163. *Mercurialis perennis repens Cynocrambe dicta*. Synop. 53. *Mercurialis sylvestris Cynocrambe dicta vulgaris*. Park. 295. **DOGS MERCURY.**

This Plant grows in Woods and Hedges, and flowers in the Spring. The Whole of it is us'd; and tho' *Prevotius*, *Moreton*, and others, affirm it to be posses'd of the same Virtues with the former, yet the Effects it produc'd on some Persons near *Shropshire* sufficiently prove it to be of a soporiferous and malignant Quality. It is a poisonous Plant; for which Reason it is very injudiciously said to be the Mercury of the Shops, by *Rhafeld* in his *Hodegus Botanicus Buxb.*

What Species of Plant the *Cynia* or *Cynocrambe* of *Dioscorides* may be, is not yet determin'd among Botanists. *Casalpini* affirms, that it is a Species of *Atriplex*; and *Caspar Bauhine* will have it to be a Species of *Parietaria*. *Lonicerus* refers it to the *Apocynum*, and *Matthioli* makes it some Species of Mercury, all of which, especially the female Mercury, agree with the Description given of the *Cynocrambe* by *Hippocrates*. *Dale*.

Mercurialis; fruticosa; incana; testiculata. *Tourn. Inst.* 534. *Boerb. Ind. A.* 2. 106. *Phyllon*. Offic. *Phyllon Arrhenogonon & Thelygonon folio incano Monspeffulana*. J. B. 2. 981. *Phyllon Thelygonon*. Ger. 263. *Phyllon Arrhenogonon sive Mariscum & Thelygonon sive feminificum*. Ger. Emac. 333. *Phyllon mariscum & feminificum*. Park. 296. *Rai Hist.* 1. 164. *Phyllon testiculatum & spicatum*. C. B. P. 122. **CHILDRENS MERCURY.**

This Species, in *England*, is found only in the Gardens of the Curious, and flowers in the Summer. The whole Herb is used, and, according to *Clusius*, much esteemed in *Barbary*, against those Diseases which are in a peculiar manner incident to Women. Some recommend a Decoction of it for those who have been bit by a mad Dog. *Magnol*.

MERCURIUS. Mercury, or Quicksilver.

Quicksilver, called *Hydrargyrum*, sive *Argentum vivum*, Offic. *Hydrargyrum*, *Græcor.* *Mercurius Chemicorum*, *Argentum fusum Theophrasti*, *Argentum Mobile Aristotelis*, *Vomica Liquoris Aeterni Plinii*, and *Zaiba*, or *Zaback*, of the *Arabians*, is a fluid metallic Substance, cold to the Touch, of a shining silver Colour, very heavy, volatile, and which will unite with most Metals, especially Gold; to which it joins itself very closely.

Quicksilver is found sometimes in its fluid Form in the Bowels of the Earth; and, in that Case, it is first well washed with Water, to clear it from Earth; then sometimes with Vinegar and Salt, to carry off all other metallic Parts; and lastly, it is passed through Cotton, or dressed Leather, and then has the Name of Virgin Mercury.

It is likewise found in Glebes, or in form of a red sulphureous Mercurial Mineral, called *Cinnabar*, or of a stony Glebe, sometimes red, sometimes yellow, sometimes dark, and sometimes of a Lead-colour.

From these Glebes Quicksilver is extracted by simple Distillation, sometimes *per Ascensum*, the Mineral being put in Retorts, and set in a strong Degree of Fire, by which the Quicksilver is raised in Fumes, Part of which, sticking against the Neck of the Retort, are there collected, and run down into the Receiver; and the rest are condensed directly in the Receiver, which, for this Purpose, is half filled with Water.

The other way of Distillation is *per Descensum*, which is performed in this Manner, and is the most expeditious, where the Mineral is rich. The Mineral, being beat small, is put into earthen Vessels, with very narrow Mouths, which are stopped with Moss truth-gathered from Trees. Other earthen Vessels, like the former, but with wider Mouths, are buried in the Ground; and upon these the other full ones are inverted, their Mouths being let into those of the lower ones. In this Position their

Necks are firmly cemented together with a proper Lute, the lower Vessels being wholly under Ground, the upper wholly above Ground. An Area of a sufficient Extent being thus filled, a Fire is lighted round the Vessels, by the Heat of which the Quicksilver drains through the Moſs, out of the upper Vessels into the lower. At a proper time they dig these up, and pour the Quicksilver into Bottles.

The Quicksilver Mines in *Hungary*, *Carinthia*, and *Friuli*, are very rich; there are, also, some such Mines in *France*, especially about *Montpelier*, and some Places of *Normandy*.

When the Mineral contains a great Portion of Sulphur, the Quicksilver cannot be extracted without adding something to absorb the Sulphur, and set the Quicksilver at Liberty, and render it fluid. Such Additions consist in Wood-ashes, Pot-ash, Quick-lime, Filings of Iron, and the like, with which the Mineral is to be distilled.

Quicksilver is the heaviest of any known Metal, except Gold, which is to Mercury nearly as four to three, and, therefore, sinks in it, whilst all other Metals swim. Quicksilver may likewise be mixed, or amalgamated, as it is called, with all other Metals, and metallic Substances, but most difficultly with Antimony, Iron, or Copper. It penetrates Metals, dissolves and makes them brittle; whence it is by some reckoned the first Matter of all Metals, but without any sufficient Foundation. It is, therefore, to be reckoned a metallic Substance *sui Generis*, fluid, heavy, divisible into very small Parts, and extremely volatile. Fire separates it into a very subtle Vapour, and in that Form dissipates it entirely; whence Alchymists have given it the Name of the *Run-away Slave*. It is, likewise, easily disguised many ways, and may again be restored to its pristine Form; whence it has got the Name of *Proteus*.

It readily unites with Sea-salt, and, thus joined, a very gentle Heat sublimes them in form of a white saline, crystalline Mass, known by the Name of corrosive Sublimate. It does not so easily join with Nitre or Vitriol. It is more easily dissolved by the Acid of Nitre, but very difficultly by Oil of Vitriol. Alkaline Salts work no Change in it; but it is in some measure fixed and extinguished by sulphureous Salts. By long Trituration with Sulphur, it is changed into a very black Mass, which, being sublimed by the Force of Fire, becomes an intensely red, shining, radiated Mass. When Quicksilver has been dissolved by Spirit of Nitre, and that Spirit again evaporated by Fire, it remains in Form of a red Powder; but, if the same Solution be precipitated with Salt of Tartar, it appears a Saffron-colour'd Powder at the Bottom. With Sea-salt it gives white Precipitate; and with Lime-water, a yellow.

It is very difficult to analyse Quicksilver, because, as soon as any Degree of Fire is applied to it, it flies off, and thus baffles the Pains and Industry of the Artist. However, by being long exposed to a very gentle Fire, in a glass Vessel, with a very long Stem, it begins, by degrees, to be turned into a greyish Powder, which, by a long Digestion, becomes yellowish, and at length red.

Thus reduced to a Calx, it is heavier than when fluid, and, also, a little more fixed in the Fire; but if it be urged with a considerable Fire, it evaporates, leaving only a little fixed Earth behind. If this Calx be burnt gently with Charcoal-dust, it turns immediately to running Mercury. By long Trituration it may, likewise, be reduced to a greyish Powder, some Particles detached from the Body, with which it is rubbed, hindering the immediate Contact of its Particles. When exposed to the Focus of a great Burning-glass, it presently evaporates in Fumes, without leaving any Remainder; but, if the Calx of Mercury calcined *per se* be thus exposed on a Tile, it first melts into a Substance like Glass, then evaporates speedily, leaving a small Quantity of a brownish Powder behind, which afterwards vitrifies. But if the same Calx be laid in the Focus of such a Glass, on a Piece of Charcoal, it melts into a Glass in the same manner; then runs on the Coal, and becomes again pure Quicksilver before it evaporates. Hence it seems evident, that Quicksilver consists of a volatile, vitrifiable Earth and Sulphur, to which it owes its metalline Splendor and Fluidity; but, if these Particles of Sulphur be again restored to it, it recovers both again. Quicksilver was by the Antients ranked among Poisons. *Dioscorides* ascribes pernicious Effects to it; and from his Authority, doubtless, it was, that *Galen* reckoned it highly corrosive; for he owns he never made any Trial of it himself. The Name of it is not found in *Hippocrates*; whence it is probable, that it was not in Use in his Time. But before *Avicenna* it was used externally, though seldom internally, being still reckoned a Poison by most Physicians. *Atthurius* ranks it, however, among Medicines; but *Mesue* applied it only for curing cutaneous Diseases, though *Avicenna* observes, that many had drank it without any bad Effect, and that it passed through the Anus unchanged. About two hundred Years ago, though it was still believed by some to be poisonous, it began by many to be used inwardly; they having observed, as *Fallopins* relates, that it was given in that manner by Shepherds to their Cattle to kill Worms, without any bad Effect; whence they concluded, that it might be safely given to Men likewise, and that, therefore, crude Mercury was not to be reckoned a Poison.

Thus *Brassavolus* and *Carolus Musitanus* tell us, they gave it to Children troubled with Worms, from two to twenty Grains, and always with some Success; and that several Midwives gave it to Women in difficult Labours, though, perhaps, not always with any visible good Effects. *Matthiolus* relates, that some Women with Child drank each a Pound of Quicksilver to procure Abortion without any bad Sequel; and it is commonly known, that the Workers in Quicksilver take this Method to cheat their Masters of considerable Quantities, by first swallowing it, and then voiding it with their Fæces, from which it is easily cleansed by simple Washing. It must, nevertheless, be owned, that the Use of it, whether outwardly or inwardly, can never be long continued without Mischief; for the Miners, and others employed about it, though of the strongest Constitutions imaginable, seldom remain four Years in that State, but are seiz'd with Tremblings, and Palsies, and all die miserable. By an injudicious Use of it, whether outwardly apply'd, or inwardly taken, the Nerves are, likewise, affected, weakened, corrupted, and contracted; whence Tremblings, Spasms, Palsies, and too great an Attenuation of the Fluids, which often brings on a fatal Salivation, Ulcers in the Mouth and Throat, and incurable Looisnesses.

Quicksilver judiciously administered is, however, undoubtedly a most excellent Medicine; it opens the Pores, small Vessels, and Ducts of the Glands; resolves obstructed Humours, attenuates those which are too thick and viscid, especially the Lympha; and dissipates Concretions, even in the remotest Parts of the Body. On all these Accounts it is found to be of singular Service in Tumors, swelled Glands, scirrhus Spleen, Mesentery, or Liver, Ganglions, Strumæ, and other such Diseases. It likewise blunts the Acrimony of the Fluids, and hence performs Wonders in Venereal Tumors, Buboes, and Ulcers, in curaneous Pustules, Scabs, and other Affections of the Skin; universal Remedies of the preparatory, and especially of the evacuating Kind, having not only gone before the Use of Mercury, but being continued along with it. For as all these Diseases arise from a viscid Serum, become caustic by a long Stagnation, if it be divided and reduced to a fluid State by Quicksilver, before a Passage is prepared for it out of the Body, it must either exert its Efficacy on the Part, where it was first lodged, or, by removing to other more noble Parts of the Body, bring on Symptoms more dangerous than the first. Therefore, before the Patient begins to take Mercury in any Form, his Body ought to be cautiously prepared by Bleeding, to lessen the Plenitude of the Vessels; by warm Bathing, and the Use of diluting Medicines, that the Humours may become more fluid, and the solid Fibres softer; as, also, by Purging, that a Way may be opened for the Passage of the dissolved Humours out of the Body. These Passages are, likewise, to be kept open during the Time that Quicksilver is taken, lest the Humours be intercepted in their Course, and be turned a more dangerous Way; and the Patient ought to be kept warm, lest Cold stop or diminish insensible Perspiration, which ought likewise to be encouraged by gentle Exercise.

Quicksilver, not only taken inwardly, but, also, by Uction, evacuates the Humours by Stool, Sweat, and insensible Perspiration; but the most common Method of its Operation is by the Evacuation of a mucous Saliva, whence it is termed a Salivation. This Way of Purging was entirely unknown to the Antients, and is thought the most effectual Remedy for Venereal Diseases; for the Cure of which it was first used by *Jacobus Carpenſis*, a Physician of *Bologna*.

From whatever Country Quicksilver is brought, that is thought the best, which, is most pure, of the most shining white Colour, most fluid, and which being evaporated, leaves no Remainder behind it. That is to be rejected, which is of a livid or pale Colour, which does not run into Globules exactly spherical, but oblong, resembling little Worms or Tears, which are sure Signs, that it is adulterated with Lead, Bismuth, or some other Metal.

Native or Virgin Mercury ought always to be purified before it is used inwardly; because it is possible it may be still mixed with some metallic, sulphureous, or arsenical Particles. The most simple Way of purifying Quicksilver is, by passing it through dressed Leather, by which it is purged from the more gross Parts, that may be mixed with it. Some wash it with Vinegar and Salt: But it is much safer to distil in a Retort with Quick-lime, Pot-ash, or Filings of Steel, by which Method Mercury is obtained more pure than by any other.

Mercury is used in Phylis, either crude, that is, being only first purified; or differently prepared. Crude Mercury is given, in Substance, to kill Worms, from a Scruple to three Drams; being first well rubbed with Sugar in a glass Mortar, till it is dissolved into invisible Parts, adding a Drop or two of Oil of sweet Almonds, to keep it from returning to its native Form. Decoctions of Quicksilver are likewise much used, being made by boiling a Pound of Mercury in six Pints of Water for an Hour: The clear Liquor is given both to Children and Adults for their common Drink. Quicksilver is a great Enemy to all Sorts of Vermin, as well as to Worms; and it suddenly kills or banishes them, being applied in an Ointment to any Parts of the Body where they are found.

Crude

M E R

Crude Mercury is likewise given in very large Quantities in the Iliac Passion, even two or three Pounds; and it often succeeds in removing the Obstruction: But, if the Obstruction be very great, so that the Mercury remains a great while in the Intestines, it may do them an Injury, merely by its great Weight. To cure the Itch, Quicksilver Girdles are used with very good Success, when the Precautions above-mentioned are duly observed. The Quicksilver is to be beat up with the White of an Egg, till both are turned to a thick Froth, which is rubbed on a Cotton Girdle, and, when dry, is wore round the Loins.

Mercurial Ointments cure the Itch, and all Diseases of the Skin. It is used in the *Emplastrum de Ranis cum Mercurio* of *Vigo*, in the *Unguentum Neapolitanum*, and in Mercurial Pills, of which the best Form, in my Opinion, is this:

Take of good Rhubarb, Trochisci Alhandal and Agaric, each a Dram; Scammony, and washed Aloes, each a Dram and an half; of Quicksilver, killed in Turpentine, half an Ounce; Syrup of Peach-flowers, a sufficient Quantity to make a Mass of Pills. The Dose is from a Scruple to a Dram and an half, in Venereal Complaints, Rheumatisms, and Obstructions of the Mesentery and Viscera. In the Pox these Pills are taken by some every Day, or every other Day.

No Substance has been treated in so many different Manners by Chymists as Mercury, both for Medicinal and Alchemical Uses; for, since they believed it to be the first Matter of all Metals, they have left nothing untried to fix it. But, though, after all their Labours, they have not been able to gain their proposed End, they have, however, enriched the Materia Medica with many excellent Remedies. It is here to be observed, that some Chymists call the Preparations of Mercury either by the Names of Oils, or Salts, which are not to be looked upon as Principles or Substances extracted from that Metal, but as saline or oily Bodies mixed with it: For hitherto no Art has been able to reduce Mercury to its first Principles; for, being extremely volatile, it flies off, before any thing of its Texture can be discovered. *Geoffroy*.

Boerhaave gives us the following Processes upon Quicksilver.

THE PURIFICATION OF QUICKSILVER.

1. Take Mercury bought of the Company of *Amsterdam*; put it into a Piece of Leather, cut round, and formed into a little Bag; tie this Bag close at the Top with a strong Pack-thread, and squeeze it strongly over a large glazed Dish; the Mercury will be thus strained pure, through the Pores of the Leather; lastly, squeeze the Bag tight, that the Whole may come through. I have not found this Mercury to leave any Foulness behind.
2. I have distilled Two Pounds of this Mercury in a clean glass Retort, with a Sand-heat, into a glass Vessel fitted to the Receiver, and open at both Ends, so as to have its lower Part plunged under Water; the whole Body of the Mercury thus comes over without leaving any Faeces, even tho' the Distillation were thrice repeated in the same Retort: For still I had two Pounds of Mercury, a very small Quantity of a thin, fine, red Powder, of scarce any Weight, remaining in the Retort, but no Feculency; so that the Mercury, even by this Trial, was pure; which is a principal Recommendation of this Commodity.
3. Take a Pound of this Mercury; put it into a Retort, and add to it two Pounds of clean Lime, flaked in the Air; distil in a Retort, with a Sand-heat; and a Pound of Mercury will be obtained again; so that even thus no Feculency is found, which, if there was any, would certainly appear in this Method.

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These are the common Ways of purifying Mercury, and fitting it for the following Operations; and this is the Method I always use. Hence we see the Volatility of Mercury; the Degree thereof; and the Purity of the Company's Mercury at *Amsterdam*.

QUICKSILVER DISSOLVED IN AQUA-FORTIS.

Take four Ounces of pure Mercury, and six Ounces of Aqua-fortis; put them into a clean Urinal, surrounded with a small Fire, that the Whole may grow warm: The Mass of Quicksilver will begin to bubble at the Bottom, and consume, whilst red Fumes, and an Heat, are produced. When the Mercury is dissolved, add a little more, so that some Part may remain undissolved, even in the Heat: Pour off the Liquor, when cold, into another Glass; the Quicksilver will be dissolved into a pellucid, uniform Liquor, even tho'

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examined by the Microscope: It is of an austere Taste, smells like Spirit of Nitre, or Aqua-fortis, and is as colourless as Water.

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Hence we see, that the very opaque Body of Quicksilver becomes pellucid by Aqua-fortis, or Spirit of Nitre; and, though so many times heavier than the Menstruum, hangs suspended in a Liquor fourteen times lighter than itself; still remaining Quicksilver, and unchanged, only surrounded with the Acid, as will appear hereafter. It is here so equably distributed in the Fluid, that, if a single Drop thereof be artificially examined, it will appear to contain a proportional Part of Mercury, in respect of the whole Liquor from whence it was taken; which is a Particular that deserves the Consideration of Chymists, and those who understand Hydrostatics: Whence we see, that the Mercury here is very finely divided; that the Acid is uniformly united with each Particle of the Mercury; and that this Acid, equably united with the Mercury, is intimately distributed therewith, amongst its watery Parts. This Solution is violently caustic, so that it can scarce be touched, as burning all the Parts of the Body with violent Pain and Heat: Whence it becomes effectual in extirpating Warts. If a small Part of a Drop touches the Skin, it presently turns it purple. Neither Aqua Regia, nor Spirit of Salt, easily dissolve Mercury; yet corrosive Mercury Sublimate is a true Salt of Mercury, dissolved by the Spirit of Sea-salt, or Aqua Regia; for it produces all the true Effects thereof: And, if put to Salt of Tartar, regenerates Sea-salt. If first precipitated, it may be dissolved in Aqua Regia; but it can alone be sublimed into a Mercurial Salt, along with Sea-salt.

THE VITRIOL OF QUICKSILVER.

1. If so rich a Solution be made of Quicksilver in Aqua-fortis, or Spirit of Nitre, as that no more will dissolve therein by Heat, and the Solution be poured into a cold Glass, there spontaneously shoots to the Bottom, a saline, white, transparent Matter, from whence the Liquor being poured, this Matter remains sharp, moist, saline, soluble in Water, and not safe to be touched.
2. If the remaining Liquor be inspissated to half, and set in a cold Place, Crystals, like the former, will shoot.
3. But if one Part of Quicksilver, along with two of pure de-crepitated Sea-salt, reduced to Powder, be distilled in a Glass Body, with a strong Fire, for five or six Hours, and, when cold, the Glass be broke, there will be found a solid dry Mercury, sublimed in the Form of Vitriol; and the common Mercury Sublimate is a true Vitriol of Mercury, tho' semivolatile.

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Quicksilver, therefore, is reduced to an imperfect Vitriol, with Spirit of Nitre, and to one that is perfect, with Spirit of Salt; but with Spirit of Nitre it is fixed; and with Spirit of Salt, volatile. The Vitriol is sharpest that is made with Spirit of Salt.

THE WHITE PRECIPITATE OF MERCURY.

Take a Solution of Mercury, made so strong, that Aqua-fortis, or the Spirit of Nitre, can dissolve no more; whence there remains no more Acid, than what is requisite to dissolve that Proportion of Mercury; add twice the Quantity of pure Water; then have at hand a strong and hot Solution of Sea-salt; let this fall, by a Drop at a time, into the Solution of Mercury; upon which the Liquor will immediately become white, opaque, and turbid, where the Solution of Sea-salt fell: After shaking the Vessel, a white Precipitate will fall to the Bottom, and a limpid Liquor float above. After the Solution of Sea-salt no longer makes the Liquor turbid, let the Vessel rest for some time, till all the white Powder is fallen; then gently pour off the limpid Liquor, till all this white Powder be separated. Shake the Remainder along with the white Powder, and put into a Paper Filtre, set in a Glass Funnel; a limpid Liquor will come away, which may be added to the former; and a white Powder will remain on the Paper: To this pour several hot Waters, till what comes through be as insipid as it was poured on. After which the white Powder will remain almost tasteless in the Filtre; dry the Paper with its Powder, by a gentle Fire; and afterwards keep it separate, under the Title of the *White Precipitate of Mercury*.

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The acid Spirit of Nitre, here attracted into the Mercury, and now dissolved in the Water, becomes an Aqua Regia, as soon

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as it is mixed with the Sea-salt; but Aqua Regia does not dissolve Mercury like Spirit of Nitre; therefore the Mercury is let go by the former Solvent, and falls in a Precipitate to the Bottom. The Water washes the Aqua Regia from the Powder that externally adhered to it; yet in this Powder some of the Acid still adheres to the Body of the Mercury; whence it has a particular Virtue, as may be shewn by many Experiments. The Powder, thus prepared, is, perhaps, the best Remedy hitherto afforded by Mercury, for internal Use: It operates effectually, and with considerable Safety. If ground with thrice its Weight of Loaf-sugar, it makes what may more properly be called a Mercurial Panacea, than, perhaps, other laborious Preparations of Mercury; for, however Mercury may be treated, its medicinal Virtue principally depends upon a certain Quantity of Acid adhering to its metallic Part: This acid Virtue, if it abound, and appear externally, in the Mercury, acts with more Violence, but with less Safety: If more sparingly added, and more united to the Mercury, it acts more slow, more mild, and safe; and this is the Case with our present Precipitate. If the saccharine Powder above-mentioned be given in the Quantity of nine Grains to a Person fasting, it purges, vomits gently, kills Worms, opens and cleanses the Vessels concerned in preparing the Chyle, resolves Phlegm, and thus cures many Distempers, such as the Gonorrhoea, Itch, and Venereal Ulcers. If this Dose be several times repeated daily, it raises a kindly Salivation. If a Dram of this white Precipitate be well mixed with an Ounce of Pomatum, or the Ointment of Roses, it makes an excellent and safe Unguent in cutaneous Disorders, and proper for curing the Itch, Breakings out in the Face, and inveterate Ulcers. It is, therefore, no Wonder, if it should be substituted in the room of the boasted Panaceas. If this Powder be put into a Glass, set over the Fire, and kept constantly stirring with a Glass Rod, and thus be long and gently calcined, it becomes so mild as scarcely to purge, vomit, or salivate; and, therefore, acts very gently when taken internally; and, in this Form, the Chymists commend it as a Diaphoretic and Corrective; but, thus treated, it is so mild as to have little curative Virtue. If a little of this Powder be rubbed upon a warm and polished Copper-plate, it presently gives it the Appearance of Silver; but this soon goes off again in the Fire.

RED PRECIPITATE OF MERCURY.

1. Take a Pound and an half of the liquid Solution of Mercury, made according to the second Process; put it into a Glass Retort, that will hold twice the Quantity; apply a Receiver, and distil with so small a Fire as not to make the Matter boil, yet bring it almost to Dryness; there will remain a solid, white, ponderous Mass at Bottom, which is extremely corrosive and fiery, so that it cannot be handled. There sticks up and down to the Sides of the Glass, somewhat of a red, yellow, or white Matter; the Mercury then beginning to dry, in a manner that is pleasant to behold. The Liquor driven over is a weak and considerably pure Spirit of Nitre, fit for the cleansing of Glasses, and other Uses. This Operation, therefore, is a kind of coagulating Mercury into Vitriol.
2. Put the Retort into a Sand-furnace, and lute on a large Receiver; distil with a gentle Fire, so that the Drops may follow each other, at the Distance of four or five Seconds. Continue thus, till red Fumes begin to rise; then immediately apply another large and clean Receiver; the Liquor that comes over is a stronger and purer Spirit of Nitre, to be kept for its particular Uses. Urge the Remainder with Degrees of Fire, and Fumes will continue, and at length very red ones will fill the Receiver: Then keep up the Fire to the utmost, for two or three Hours; there will be found in the Receiver a yellow and exceedingly strong Spirit of Nitre, which will afford yellow Fumes for Years, if confined in a clean Glass: And, by these means, an exceedingly strong Spirit of Nitre may be procured, as being, in some measure, rectified; though it thus, in some respects, changes its Nature, as it will not so well take Flame with distilled Oils. All being now cool, there will remain, at the Bottom of the Retort, a solid Mass, of a shining-red Colour; between which and the Neck, as, also, in the Neck itself, will be found a Matter of very various and beautiful Colours; as white, yellowish, yellow, greenish, redish, and highly red. Break the Retort carefully; take out the red Matter in the Belly of the Glass, and separate it carefully from that which appears less red on the Surface; for this latter is very corrosive: Keep the red Part by itself, under the Title of the *Red Precipitate of Mercury*.
3. The Chymists, admiring this shining Mercury, and the remarkable Fixedness thereof, which was before volatile, imagined, that, by repeating the Operation, they might convert it into a fixed Gold: They, therefore, poured fresh Spirit of

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Nitre to it, drew it off again, and, by often repeating the Operation; thought to obtain Gold; which *Sylvius*, in his posthumous Works, asserts to have been thus done: But this is incredible to the cooler Chymists. *Paracelsus*, in the Preparation of his Precipitate, directs the Spirit of Nitre to be often drawn off from the Mercury.

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Hence we learn the changeable Nature of Mercury, from fluid to solid; from volatile to fixed; from mild to corrosive; and from white into almost all kinds of Colours. But, however it is prepared with the Acid of Nitre, yet it may be recovered, in its native Form, and original Weight, unchanged, if it be distilled in the Retort along with fixed Alkali, Quick lime, or Iron Filings. This Precipitate, which is called *Vigo's* Precipitate, is sharp and corrosive, occasioning Pain, and producing an Eschar, when externally applied; and hence, afterwards, it always occasions a thick white Pus, and thus cleanses the Lips and Bottoms of Ulcers, and disposes them to heal. It is dangerous to give internally, as inflaming the Viscera by its caustic Virtue, and occasioning Anxiety, Pain, Vomiting, Purging, Griping, and operating, also, by Urine and Sweat. If given in too large a Dose, which should never exceed three Grains, or if too often repeated, it occasions a Salivation, with all its Symptoms; and thus cures many Distempers, which are not easily curable any other Way: It is more violent and dangerous than the white Precipitate. *Paracelsus* and *Helmont* shew how to mitigate it, by several times distilling Alcohol upon it; and thus indeed it becomes milder, by losing much of its Acid; but, at the same time, it requires to be given in a larger Dose. They, also, corrected it with the same Success, by distilling from it the Water of the White of Eggs. Others dissolve it in strong distilled Vinegar, by Boiling; then strain and purify, and, by several times distilling the Vinegar off, render the Powder more mild. But there seems to be little gained by all this, white Precipitate being already the Thing here required. In short, the acrimonious Acid, adhering to the Mercury, causes it to operate in a very small Dose; and the more this Acid is in it, and the more external to the Mercury, the more violently it acts, and *vice versa*. If this Precipitate be put into a thin, hollow, glass Dish, set over the Fire, and continually stirred with a Tobacco-pipe, it will change of a deep Colour; and, if long continued thus, it becomes so much the milder, so as, at length, scarcely to act at all.

MERCURY SUBLIMATE.

Dissolve half a Pound of Mercury in a sufficient Quantity of Aqua-fortis, according to the second Process; carefully inspissate it to a white dry Mass, according to the first Direction in the third Process: Take, also, ten Ounces of decrepitated Salt, and as much common Vitriol calcined to Whiteness. Grind these two Salts for a long time separate, in a glass Mortar, with a glass Pestle, in a dry and warm Place; then mix them together, and carefully mix in the Mercury among them. Put the Powder into a Bolt-head, of which it may fill only a third Part; cut off the Neck of the Glass, so as to leave only about seven Inches thereof above the Body: Set it in a Sand-furnace, so as that the Bottom of it may touch the Iron Pot; and let the Sand rise exactly to the Surface of the contained Matter. Apply a very gentle Fire, and increase it by very small Degrees, till a Vapour exhales out of the Mouth, which Vapour is to be avoided as highly pernicious to the Lungs. When all the Moisture is perfectly evaporated, stop the Mouth of the Glass with Paper, and increase the Fire till the Pot be red; a corrosive Mercury Sublimate will rise to the Sides of the Glass in white transparent Crystals: Let the Glass cool, and break it, and separate the Sublimate carefully from the Faeces, and sift Powder on the top, and keep it in a dry Glass. For the Method used at *Venice*, consult *Tachenius*, in his *Hippocrates Chymicus*.

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The white Mercury, here employ'd, contains Aqua-fortis mixed in among it; the white Calx of Vitriol, mixed with Sea-salt, enters this Salt, and drives out the Spirit; and, whilst these two act upon the Mercury by the means of Fire, there is made an Aqua Regia by the Spirit of Nitre contained in the Mercury, and the Spirit of Sea-salt set free by the Acid of Vitriol. The Phlegm is first discharged by a gentle Fire; the strong acid Part of the Aqua Regia unites with the Mercury, and corrodes it; but this Aqua Regia is of the Nature of Sea-salt. The Spirit of Sea-salt fixes the Quicksilver not like the Spirit of Nitre, but rather makes it semivolatile: And hence the Mercury is sublimed, and is a true solid dry Vitriol of Quicksilver, that remains consistent in the Air. The Basis of this Vitriol is pure Quicksilver, and the other Part, the strongest Spirit of Sea-salt, that can any way be obtained; so as here to appear in a solid Form. With respect to this acid Spirit of

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Sea-salt,

Sea salt, the Preparation is a Lapis infernalis of Mercury, and a most violent Corrosive, presently converting all the Parts of the Body it touches, into an Eschar, that soon falls off; whence it consumes obstinate Callosities in Ulcers, as, also, Warts, and indurated Glands. That eminent Surgeon, *Johannes a Vigo*, was acquainted with it; and hence composed his Troches of Minium, which are an incomparable Remedy for consuming scrophulous Tumors, and eradicating them by Suppuration. The Taste of this Vitriol is abominably austere. A Grain of it, dissolved in an Ounce of Water, affords an excellent Cosmetic, if cautiously used. It proves poisonous to all cutaneous Insects, by bare Lotion. If a Dram of this Solution be softened with Syrup of Violets, and drank twice a Day, it performs Wonders in many reputed incurable Diseases; but it requires to be cautiously used by a prudent Physician, and should not be ventured upon, unless the Method of managing it be known. This Mercury, when mixed with Metals and Semimetals, has very excellent and inimitable Effects, even such as would surprise a Chymist. It wonderfully changes Silver itself. Certainly, this Mercury Sublimate is a Key that serves to open numberless chymical Secrets. By means of it, perhaps, some Proportion of Silver may be converted into Gold, that could not before be found therein. Hence, also, is obtained the acute Menstruum of Mr. Boyle, and other Things. No Chymist will repent of the Labour he employs upon this Sublimate. We see, that Aqua Regia will dissolve Mercury better than any Aqua-fortis, provided it be first dissolved in the latter; and the Spirit of Salt will sublime it, tho' before fixed with Spirit of Nitre. If, according to the Direction of Mr. Boyle, this Mercury be sublimed with an equal Weight of Sal Ammoniac, it will afford a wonderful Salt.

Geoffroy's Directions for making the Mercury Sublimate are these.

Take any Quantity of pure Quicksilver, dissolve it in Aqua-fortis, and distil the Solution to Drinels. With the remaining saline Mass, mix four Parts of decrepitated Sea-salt, and sublime in a glass Matrafs with a short Neck. What rises, is a white saline crystalline Body, called corrosive Sublimate, or the poisonous Dragon.

When taken inwardly, it proves a corrosive Poison, of the same Nature with Arsenic; but the Symptoms it causes, are quicker, and more terrible. It is used externally to consume proud Flesh, and to deterge old Ulcers. The Phagedenic Water is made of it, by dissolving half a Dram in a Pint of Lime-water. The Solution is yellowish.

The Cure for those Persons who have unfortunately taken Mercury Sublimate, is performed by drinking large Quantities of Milk, Oil, or fat Broths, while the Poison remains in the Primæ Viæ; but, after it has got into the Blood, alexiterial Medicines are to be used, such as Venice Treacle, Mithridate, Bezoar, Powder of Vipers, Contrayerva-root, and such-like, and afterwards a Milk-diet.

Relative to this Poison, Sydenham gives the following very remarkable Case.

About two Months since, a Person in my Neighbourhood desired me to visit his Servant, who had taken a large Quantity of Mercury Sublimate, being melancholy mad for Love, as I afterwards heard. The Poison had been swallowed near an Hour, when I came, and his Mouth and Lips much swelled; he was extremely sick, had a burning Pain in the Stomach, and was almost killed with Heat. I ordered him to drink three Gallons of warm Water, as quick as possible, and to take a large Draught of the same, after each time of Vomiting; and as soon as it appeared, from the Gripings, that the Poison was going downwards, I also directed warm Water alone to be plentifully thrown up by way of Clyster, in order to wash his Bowels. The Wretch comply'd, being now very desirous to live, and drank several Pints of Water more than I had directed. He told his Friends that were by, that the Water, which first came up, was very acrid, by reason of its being saturated with the poisonous Salt; but that it was less acrid after every Vomiting, till at length it became insipid, and the Gripes that succeeded were remedy'd by injecting Water alone Clysterwise. By this simple Method, the Patient was recovered in a few Hours; only the Swelling of his Lips did not immediately fall, and his Mouth remained ulcerated; occasioned by the Particles of the Poison, which came up with the Water by Vomiting; but these Symptoms yielded in four Days to a Milk-diet. I preferred Water to Oil, (which is generally used by the less knowing without Success) and all other Liquors, because, being very thin, it seemed fitter to absorb the Particles of this poisonous Salt, than any other Liquor that was thicker, or already impregnated with the Particles of some other Body.

Of this corrosive Sublimate is made Mercurius dulcis, called dulcified Sublimate, *Aquila alba*, the Dragon tamed, and Calomel, in the following manner.

Take of corrosive Sublimate, sixteen Ounces; grind it thoroughly in a Marble Mortar, pouring in, by slow Degrees,

twelve Ounces of crude Quicksilver, well purify'd. Continue to grind them, till the whole Quicksilver disappears, and then the Powder will be of a leaden Colour. This Powder, put into proper Glasses, to the Height of an Inch or two, is sublimed by a slow gradual Fire, into a white Mass; which, being separated from the Fæces, and powdered, is, again, sublimed.

This Preparation purges gently, divides all viscid pituitous Humours, kills Worms, and is reckoned a sovereign Medicine in Venereal Diseases. The Dose is from six to thirty Grains in Pills, or a Bolus; and, if the Use of it be continued for several Days, it will raise a Salivation. It is most commonly mixed with other purging Medicines; and some chuse to give it in this manner, every other Day, in order to cure the Pox without Spitting.

TURBITH OF MERCURY.

1. Put four Ounces of pure Quicksilver into an urinal Glass; pour thereon eight Ounces of rectified Oil of Vitriol; heat them gently and slowly; then put the Glass upon burning Coals, that the Matter may boil gently, with Care to avoid the Fumes; to which Purpose, the Operation should be performed under a Chimney, that the Vapour may go off without coming at the Lungs. The Quicksilver, running at the Bottom of the Oil of Vitriol, will thus begin to dissolve. Continue the same Degree of Heat, till all the Mercury be dissolved; the Mass will be white like Snow; calcine it with the same Degree of Heat, to Drinels, or till it fumes no longer; it will be an exceeding white and snowy Powder, but intolerably sharp, so as not to be touched: It is called the white Calx of Mercury, made with Oil of Vitriol. The Operation succeeds in this manner, but scarcely in those commonly directed.

2. Grind the dry and hot Mass in a dry Mortar, to fine Powder; have at hand a Glass full of clean hot Water, at least twenty times the Weight of the Mercury; throw the Calx into it; at that very Instant, the white Powder falls thro' the Water to the Bottom, and acquires a beautiful Lemon-colour. Shake the Vessel for some time, that the Powder may be well mixed with the Water; then let all settle; decant the Liquor into another Glass; wash the remaining yellow Powder with several hot Waters, till it becomes perfectly insipid; then dry it thoroughly with a gentle Fire: This beautiful yellow Powder is called Turbith Mineral.

3. Let the first Liquor, poured off, stand for some time; then strain and inspissate it to a third Part; it will be a Mercurial Water; for, if a little Oil of Tartar be dropt in it, a redish Precipitate will fall to the Bottom; and the Liquor may be kept under that Title.

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Thus the strongest Oil of Vitriol, united to Mercury, makes a white fixed Powder, that will endure a very strong Fire, as being much more fixed than one would imagine. We see there are different Effects of different Acids, with regard to the Colour. The white Colour here is not changed with the most violent Fire, though it was easily with the Spirit of Nitre. This white Powder, however, being calcined, becomes exceedingly corrosive, and thence poisonous. Here we see a new Colour immediately arise, in a particular Manner, upon the bare Contact of Water; for if this white Powder be properly prepared, and laid in the open Air, it soon grows yellow on its Surface, by attracting the Moisture of the Air. This seems to be the Powder, with which, when rightly prepared, Paracelsus performed Wonders, as appears from his Hospital Surgeon; and this is sufficiently attested by *Oparrinus*, who declares he has frequently been employed in making it. It may be rendered milder, by burning Spirit of Wine upon it, after the Manner of the ancient Chymists, who, by these means, took away from their metalline Calces the Salts, that, externally adhering thereto, rendered them too sharp, so that only the Salts intimately united might remain behind. The prudent Sydenham, who is a cautious and sparing Commander of the Chymists, gratefully acknowledges, that, by means of this Medicine, Diseases, otherwise incurable, might be cured. Mr. Boyle relates, that by a small Dose hereof, used as a Sternutatory, the whole Body has been changed, and even Cataracts cured. A Woman at Paris is, also, said to have herewith cured Persons given over. Hence it seems an extraordinary Medicine, in stubborn and obstinate Cases; but it requires a skillful Physician, and should not be used, when safer Remedies may suffice. It is serviceable in the Dropsy, as well as in the Venereal Disease; and, also, in the most obstinate Diseases of the Glands. *Helmont* says, that Oil of Vitriol is here converted into Alum, barely by the Contact of Mercury; but this is either speaking improperly, or not justly; but when that excellent Author directs the

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Fire of the Vitriol of Copper to be poured upon *Vigo's* Powder, and thence distilled, for preparing the secret Cathartic of *Paracelsus*, if I understand him right, it makes this Medicine: For if the Fire of the Vitriol of Copper be the strongest Oil of Vitriol, as soon as this is poured upon red Precipitate, it immediately renders the Spirit of Nitre volatile, causes it to fly off from the fixed Mercury, and soon after, supplying its Place, produces the Calx of Mercury as above. If the Water of Whites of Eggs be several times distilled from it, this takes away the Acid externally adhering thereto, and renders the Powder milder, though it will still operate sufficiently, which is an Effect seldom procurable any other Way. But if, by Fire, any thing else be here understood of a more subtile Nature, I can fix no other Meaning to it; but by comparing *Helmont* with *Paracelsus*, I suspect it is no more than what I have said. Metals alone have little Effect upon the Body, except by their Bulk, Figure, and Weight; but by Addition of Salts, especially the acid Kind, they acquire new Properties, and those often surprising, and very different, according as the Acids are more fixed therein, or adhere more externally. In the Form of Vitriol they act very violently; but, if calcined in this Form, the Calx grows gradually milder; and by a long-continued strong Calcination, which drives out the Acids, they become mild, though before exceedingly sharp, as we see happens in *Turbith*; and thus their Operation becomes milder, and, at the same time, proportionably less effectual. Those Chymists and Physicians, therefore, are mistaken, who, having found that this *Turbith* performed extraordinary Things, but operated violently, endeavoured to mitigate its Virulence, which indeed may be easily done, but not so as to have the same Effects when mitigated, as before. The Ways of mitigating the Acrimony, are by taking away the Acid, by washing the Preparation with Water, by frequently distilling pure upon it to Drinefs; by pouring Alcohol upon it; by distilling several Parcels of Alcohol upon it to Drinefs; by grinding it along with more metallic Matter, as in the Preparation of *Mercurius dulcis*, by the Addition of alkaline Salts, which absorb the Acids; by grinding the Matter with Chalk, Crabs-eyes, testaceous Powders, or the like Absorbers of Acids; by a long-continued Calcination; and, lastly, by Fixation with a Fire gradually increased from a moderate Heat to the highest that Glass will bear.

THE FIERY OIL OF MERCURY.

Take Mercury, calcined with Oil of Vitriol, to a dry snowy Calx, as in the preceding Process; suffer it to cool; put it into an Urinal Glass, and pour thereon an equal Quantity of Oil of Vitriol; boil, as before, almost to Drinefs, with great Care to avoid the Fumes; it now dries with much more Difficulty, and requires a longer Time, and a much stronger Fire. When the Powder is dry, put the same Quantity of Oil of Vitriol to it, and proceed as before; at length it will scarcely dry by a long-continued and strong Fire, but begin to cease flowing, and to grow rigid like fixed Oil; being highly sharp, caustic, and not to be touched, like the *Ignis Gehennæ* of *Paracelsus*: By this means the Mercury is so fixed with the Oil of Vitriol, as not to go off with the violent Action of the Fire.

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This Experiment serves to shew the Method of impregnating, saturating, and incrating Metals by Acids, to any Degree; and, also, of fixing volatile Mercury by them, so far as is possible: But no Metal is hence to be expected; for, in whatever manner Mercury is fixed with Acids, yet it is again recoverable in its pristine State, by grinding it with twice its Weight of Iron Filings, and distilling it in a glass Retort, with the highest Degree of a Sand-heat.

For *Æthiops* of Mercury, see *ÆTHIOPS MINERALIS*.
For factitious Cinnabar, see *CINNABAR*.
For Mercury amalgamated with Metals, see *AMALGAMA*.
For Metals washed with Mercury, see *AMALGAMA*.

OTHER PREPARATIONS OF MERCURY.

The *Mercurius Præcipitatus per se* is thus prepared:

The Mercury first well purified, put it into a flat-bottomed Glass, called *Vas Infernale*, which being set in a Sand-heat, the Fire is gradually increased, and the Metal turns first to an Ash-coloured Powder, and, at length, becomes very red. It causes Vomiting, purges downward, and provokes Sweat, being given from two to six Grains. *Geoffroy*.

MERCURIUS PRÆCIPITATUS SOLARIS PER SE, according to the *Pharmacop. Batav.* is made of an Amalgama prepared of four Ounces of Mercury, with half an Ounce of Gold fused

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with Antimony, and placed in the *Vas Infernale*, taking the Matter often out, and triturating it according to Art.

The *Green Precipitate* is thus prepared:

Take of pure Mercury, four Ounces; of thin Copper-plates, an Ounce: Dissolve them separately in Spirit of Nitre, then mix the Solutions, and evaporate to Drinefs. The remaining Mass, being reduced to Powder, is digested, with distilled Vinegar poured on it, to the Height of six Fingers-breadth above it. When the Vinegar is tintured green or bluish, it is poured off, and more put in its Place, as long as the Mass can communicate any Tincture: then all these Tinctures, being mixed together, are evaporated to the Consistence of Honey; and this Substance, when cool, grows hard; and, being reduced to Powder, is kept for Use.

It purges both upward and downward, and is reckoned by some a Specific in a virulent Gonorrhœa. The Dose is from two to eight Grains, to be repeated every Day, or every other Day, till the Running ceases. Others reckon it an unsafe Medicine, because of the poisonous Quality of the Copper.

The *Violet*, or *Black Precipitate*, called by some *Diaphoretic Mercury*, or the *Mercurial Panacea*, is usually made in this manner:

Take of pure Sulphur, four Ounces, and melt it in an earthen Vessel over a Charcoal-fire: Into the melted Sulphur throw, with great Care, six Ounces of very clean Quicksilver, stirring it constantly with an Iron Rod; and, when they are perfectly incorporated, add four Ounces of Sal Ammoniac. Let this Mass be sublimed in a glass Vessel; and, mixing the Sublimate with the Fæces, let them be again sublimed; and repeat this Operation four times; then separate the heavy, blackish or bluish Mass, at the Bottom of the Vessel, from the other light, rare, yellowish Substance, which is of no Use.

The last Preparation of Quicksilver in *Geoffroy* is the *Mercurial Panacea*, so called from its extraordinary Qualities; and which, says he, may be justly named *Panacea Ludoviciana*, because the Secret was bought, and made public, by *Lewis XIV.* It is made in the following manner:

The crude Quicksilver is purified by being first made into Cinnabar, and then extracted from thence. Of this Mercury revived from Cinnabar, is made corrosive Sublimate, which must be thrice sublimed; twice with Sea-salt, and once without any Addition. Part of this Sublimate is again reduced to running Mercury, and the remaining corrosive Sublimate is made *Mercurius dulcis*, by nine Sublimations. Lastly, this *Mercurius dulcis* is put in Digestion for three Weeks, with any aromatized Spirit of Wine; and afterwards separated from the Liquor, and dried for Use.

This is undoubtedly an excellent Medicine in all Venereal Affections; and is recommended, also, in Rheumatisms, Obstructions of the Mesentery and Glands, King's Evil, the Itch, Tetters, and Worms. Some use it, also, for the Scurvy; but, in my Opinion, no Preparation of Quicksilver can be proper in that Distemper. The Panacea more readily salivates than *Mercurius dulcis*, because this latter often passes off by Stool. *Geoffroy*.

MERCURIUS RESUSCITATUS.

Mercury revived from Cinnabar.

Take Cinnabar, one Pound; calcined Tartar, or Pot-ashes, one Pound; Calx viva, two Pounds; grind these well together, and put them into a Retort, leaving, at least, one Part in three empty; place it in a Reverberatory Furnace, and set to it a Receiver; let it stand twelve Hours, and then kindle a Fire, increasing it gradually to the fourth Degree; keep it so till the Mercury is all come over into the Receiver, which will be in seven or eight Hours time; then wash away the Filth, and strain the clean Mercury through a clean Napkin, into an earthen Dish.

PULVIS PRINCIPIS: Prince's Powder.

Take of the red corrosive Precipitate of Mercury, half a Pound; grind it very well upon a Marble or Porphyry-stone; put it into a Cucurbit with two Quarts of Water; Place it in a Sand-furnace, and give it a Fire to make it scalding hot; let it stand so twelve Hours, stirring it about once in two Hours; then let it cool, and decant the Water. Put this Precipitate into Water a second time, and a third, repeating the Operation as before. Then dry the Precipitate, and grind it with double the Weight of the Salt, extracted from the Residuum of the Tinctura Metallorum: Put them into a Cucurbit with Water; proceeding in all things as above, till the Precipitate remain intipid; then dry

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dry it, and boil it in Spirit of Wine: Decant the Spirit when cool, and dry the Precipitate.

This is emetic and cathartic, and is prescribed in Venereal and Chronic Cases. The Dose is from three Grains to half a Scruple. The several Ablutions serve only to lessen the Quantity and Pungency of the Salts, which the Precipitate received in Making from the Aqua-fortis, and so to render it milder in the Operation.

MERCURIUS VITÆ. See ANTIMONIUM.
For the *Arcanum Corallinum*, see ARCANUM.

HERCULES BOVIL.

The most proper Method of preparing this Medicine, is the following, directed by *Thomasus Bovius*.

Take of calcined Vitriol, and Nitre, each one Pound; distil in a Reverberatory Furnace; pour the distilled Liquor upon one Pound of calcined Sea-salt in a glass Retort, draw it off by a gentle Sand-heat; for it easily ascends: The Mercury is to be dissolved with one Portion of this Liquor, and the Gold by another; then both Solutions, when joined, are to be drawn off; and, after frequent Cohobations, adding at each time, about a third Part of the same Menstruum, let the Distillation be repeated till the Matter is sufficiently fixed; which when duly edulcorated, is to be kept for Use. The Dose is from three to five or six Grains: Or,

Take of purified Mercury, four Ounces; of the Filings of Gold, half an Ounce; make an Amalgama, to which, when washed, and put into a Retort, pour the aforesaid Menstruum of *Bovius*; draw off in a Sand-furnace; and, after frequent Cohobations, adding at each time about a third Part of the same Menstruum, let the Distillation be repeated till the Matter is sufficiently fixed. Then let the Matter be calcined on a red-hot Plate of Iron, and edulcorated by frequent Washings, and burning Spirit of Wine upon it. The Dose is from three to six Grains: It operates gently by Vomit; and often affords singular Relief in very terrible Disorders, because, getting beyond the Prime Viæ, it operates immediately on the Mass of Blood. *Willis*.

As the Aurum Vitæ is a celebrated Mercurial Preparation, we shall, under this Article, give Dr. *Bates's* Directions for its Composition. This Medicine therefore is prepared in the following Manner:

Take of Gold, two Drums; of purified Mercury, two Ounces, separately dissolved in their proper Menstruums, duly mixed, and in a Retort distilled to Driness. Calcine the remaining Calx, edulcorate by washing with Water, and an artificial Kindling of Spirit of Wine.

This Medicine is said to surpass all other Cathartics, to remove Worms, cure the Lues Venerea, Ptechial Disorders, the Plague, and Quartan Fevers. The Dose is from three to six or eight Grains, with Sugar of Roses, in an Egg or Broth, or in Pills, especially when joined with Scammony, and moistened with Aqua-vitæ burned upon it.

The Curious may find many more Mercurial Preparations in the *Collectanea Chymica Leydensia*.

FREDERIC HOFFMAN'S DISSERTATION ON MERCURY.

Mercury is sometimes so adulterated, as to produce very terrible and uncommon Symptoms: Thus, Mercury is commonly adulterated with Lead; but this Fraud is, I think, adverted to by none except *Quercetanus*, in his *Consilium de Lue Venerea*; for by the Intervention of *Bismuth*, Lead, if its Quantity is not too large, may be forced through Leather, and rendered so fluid and moveable, as to prevent all Suspicion of Fraud. Hence 'tis obvious, how insufficient and superficial the Depuration of Mercury must be by such an Expression alone. But what terrible Effects are produced by Lead internally taken, is sufficiently obvious to any one, who is but a little conversant in the Writings of practical Authors; and a small Quantity of it is absolutely deleterious, when treated in a manner not unlike that used when Mercury is adulterated with it. But what some assert, which is, that Quicksilver attracts and associates with itself metallic Impurities from Mines of Lead, Antimony, and Arsenic, seems to be entirely groundless; for, in those Parts where Quickilver is copiously obtained, Mines of this Kind are not contiguous to those of the Mercury: Besides, Quickilver, which is easily mixed with some metallic Substances, nevertheless, when inherent in the Ore, and coagulated with the Vapour of the Sulphur, admits no intimate Mixture of Metals, or other contaminated Bodies. But, notwithstanding these Circumstances, it happens from

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other Causes, that all the Species of Mercury have not an equal Purity, and Subtlety of Parts. Hence one Species is often found far more valuable than another. That Mercury, however, is sufficiently good, and fit for most Purposes, which, when exposed to the Fire, is quickly and totally exhaled, so that no Part of it is left. That, also, is good, which, by Digestion, neither throws a foul Sordes up on its Surface, which is generally produced by the Bismuth, nor contracts a Pellicle on its Surface, but quickly acts upon Metals, and speedily destroys their Cohesion. 'Tis a common, tho' false Opinion, that good and genuine Mercury, after Depuration in a silver Vessel, leaves a yellow Spot behind it; which however is never readily observed, unless the Mercury has been frequently amalgamated with Gold, and afterwards separated from it, or depurated, and revived after the Method of *Philaletha*, which we shall in the Sequel describe.

We now come to consider the Elements or Principles, of which Mercury consists. But this Subject is so involved in Perplexities, and so incumbered with the subtle Hypotheses of the Atomists, as to furnish the Mind with nothing but vague and general Speculations. From rational and consistent Principles of Chymistry, more probable and useful Truths might be discovered; but, even by these, this obscure Subject has not been fully explained. 'Tis, however, certain, from the Experiments of various Authors, and especially of *Becher*, that all Metals are compos'd of a certain solid and compact Earth, which constitutes their Bases and Body. But since there are only two principal Kinds of Earths; the one comprehending the fusible Earths, which are fit for being colligated into vitreous Substances, and, therefore, called vitrescent; the other containing the calcareous, that is, such Earths as cannot be colligated by the strongest Fire, but are, by its means, burn'd to a Calx, or a light and porous Substance; hence it follows, that since the former Species of Earths are furnished with these Properties of Metals, Weightiness, Fusibility, and Malleability, Metals must enter their Composition. Such a solid Earth, therefore, of a fusible and vitrescent Nature, intimately, and in its minutest Particles, mix'd with an unctuous Matter more or less acid in subterraneous Cavities, by means of the Ether, constitutes the Matter of metallic Substances, the Variety of which depends only on the different Purity and Proportion of this Earth, with respect to the unctuous Matter, and the different Mixtures of these with each other. This is so effectually confirmed by the Experiments of *Becher*, in his *Physica Subterranea*, and of some others, that there is not the least Possibility of entertaining a Doubt about it. We may, therefore, affirm, that Mercury, tho' differing from other Metals, with respect to its Fluidity, has yet the same common Origin with them; and that its constituent Matter, and considerable Weight, are owing to this solid and compact Earth; but that it contains a small Quantity of the unctuous Substance, for which Reason it is not compacted into a solid Consistence, like other Metals, but more easily yields to the brisk Undulations of the Ether, from which it derives its Fluidity. And, if we carefully advert to the Matter, it will be sufficiently obvious, that, since this solid Earth, which constitutes the Basis of Mercury, is, by the highly-accelerated and internal Motion of the Ether, continually circumagitated, all its most minute Particles must, by this rapid Agitation round their Axis, assume a round Figure, and become highly smooth and polish'd Globules of a surprising and indefinite Smallness. From this Smallness, and Mobility of the globous Particles of Mercury, arise not only its Properties, but, also, the Effects it produces on other metallic, as well as animal and organic Bodies.

Thus, therefore, we first account for that Fluidity in Mercury, which is so surprising, that nothing in Nature comes up to it; for it is entirely destitute of Humidity. Hence Mercury is by the Chymists called a *dry Fluid*, which does not moisten the Hands. This Circumstance seemed so surprising to *Fallopian*, that he call'd Mercury the *Miracle of Nature*. But the principal Cause of this Fluidity is the subtle Ether* copiously intermixed with the minute Globules of the Mercury. By the brisk and continual Agitation of this Ether the Particles of Mercury have their Situations changed, and are so disjointed, that they easily yield to the Contract or Action of other Bodies, in which it is universally agreed that the very Essence of Fluidity consists. But this Fluidity is not accompanied with Moisture, because the Particles, of which Mercury is compounded, are polished, and highly small; in consequence of which they can neither be easily stop'd in their Motion, nor readily adhere to other Bodies; which happens when Fluids are compos'd of branchy, viscid, or more flexible Parts, such as Oil, Water, and a great many others. But that this ethereal Substance is the Cause of Fluidity in Mercury, besides the various Hypotheses of Philosophers, may, also, be proved by this, that, by means of Effervescence and Ebullition performed with various Salts, skilful Chymists can from Lead, or Regulus of Antimony, obtain a sufficiently fluid Mercury; which happens partly because the Salts, used for this Purpose, destroy the Cohesion of these Metals, and render them fluid; and partly because by the Conflict, and mutual Re-action of these Salts, a large

* *Hoffman*, instead of supposing this Ether to exist, and its Action, should either have proved it, or said nothing of it; for Hypotheses of this kind are far from conveying Knowledge, and improving the Understanding.

Quantity of the ethereal Fluid is either produced, or collected, and put into a more rapid Motion, by which the yielding, and before highly moveable Particles of Metals are continually carried round their Axis, and by this means assume the Nature and Properties of Mercury. Besides, upon this brisk and lively Action of the Ether on the minute Particles of the Mercury, depends its Volatility, which is so great, that upon the Access of a gentle Heat it diffuses a large Quantity of Effluvia, as is sufficiently known from its Effects, when used as an Amulet, if we may believe the Accounts taken from *Hercules Saxonia*, by *Wedelius*, in *Tract. de Medendorum Facultat.* But if, by an intense external Heat, that of Fire, for Instance, the Elasticity and Expansion of the Ether in the Mercury are augmented, the Particles of the Mercury are gradually elevated, and exhaled in the Form of an almost insensible Vapour.

Besides the Volatility and Fluidity of Mercury, it is, also, so heavy, as in Weight to exceed all other Metals, except Gold. The Matter of this Gravity is, without doubt, supplied by that solid Earth, from which Mercury has its Consistence. All the Particles of this Earth, though highly small, are yet so dense, and lie so close to each other, that they form Interstices so small as only to admit the Ether, and exclude the grosser Air, as is certain from various Barometers, but especially that of *Torricelli*. Hence, notwithstanding the brisk intestine Agitation of all the Parts of Mercury, for the Continuation of which the subtile Ether is abundantly sufficient, yet Mercury, of itself a dense Substance, is so compressed by the circumambient Atmosphere, as necessarily to constitute a Body of remarkable Weight. But though Fluidity and Mobility may at first seem rather to diminish than augment the Gravity of Bodies, yet the contrary may be proved from the most common Experiments; for we observe, that melted Metals are specifically heavier, than such as are solid: Thus, for Instance, if solid Silver is thrown into a Quantity of the same Metal fused, the former swims upon the latter. The same holds true in Ice, which is specifically lighter, and takes up a proportionably larger Space, than fluid Water.

From the principal Properties of Mercury, already enumerated, we may, as it were, from simple and demonstrative Principles, account for its Effects on other Bodies. That Solution, then, of Metals produced by Mercury, in what we call Amalgamation, is only to be ascribed to the minute Globules of Mercury, which, being strongly exagitated, especially by external Heat, quickly enter the Pores of all Metals, except those of Iron; and, by their destructive Motion, so disjoin and separate the Cohesion of all the Parts, that, in minute Bulks, they swim in the Globules of Mercury, and resemble a Substance of the same Ductility with Wax. Besides, Mercury produces more powerful Effects on the human Body, than any other Medicines: For, if Quicksilver, properly subdued with Lard, is applied externally, by way of Ointment, to the Body, and even its tendinous Parts, or if repeated Doses of the *Mercurius præcipitatus dulcis* are exhibited internally, the minute Particles of the Mercury, put in Action by the Heat of the Body, not only in consequence of their globular Figures, and smooth Surfaces, but, also, by means of their specific Gravities, quickly continue the Motion: For which Reason they easily enter the most remote and narrow Recesses of the Body, break through the viscid and impervious Humours lodged in them, and, by their Gravity, stimulating the moving Fibres, rouse them to more frequent Contractions, and, by that means, accelerate the Circulation of the Humours through all the Vessels; and all these Effects are produced without any Violence. But, if there is a large Quantity of acrid Salts in the Humours, and if these Salts should approach to, and be united with, the Globules of Mercury, these Salts, before of a mild Quality, assume a pernicious and corrosive Nature: For which Reason, being forcibly applied to the moving and nervous Fibres, they not only throw them into violent Commotions, but, also, stimulate them to greater Contractions. Hence the interspers'd Blood-vessels are compressed, and the free and natural Circulation of the Blood through them intercepted: By this means an unequal Distribution of the Humours is made, and a too copious Congestion of them to the laxer Parts, and such as are less subject to Constriction, is produced. But there are many lax lymphatic Glands, falsely taken for those of the conglomerate Kind, since they rather consist of a Compages of Vesicles and Cellulae loosely cohering with each other, which are more lax than the other Parts; and of this Sort, in particular, are the spongy and glandular Coat of the Fauces, and the Tonsils, together with the other salival Glands, to which when the Mucus and Saliva are copiously congested, and, as it were, derived from other Parts, these Glands become so remarkably turgid, as, if a Swelling of the Tongue happens at the same time, which it frequently does, to bring on a considerable Danger of Suffocation. When this Tumor is broken, either by the Weight of the Mercury, or by means of the small Ulcers, which are sufficiently manifest from the fetid Smell, and produced by the Mercury assuming a corrosive Quality by the Access of the acid Salts of the Humours, there is produced a liberal Discharge of the Saliva, which, if a due Regimen is used, is protracted for some Weeks. But that, during

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this Salivation, there is a copious Congestion of Humours to the salival Vessels from other Parts, is sufficiently obvious from this, that, in such a Course, the whole Habit of the Body is remarkably collapsed, or rather constricted, and the Veins, before conspicuous and turgid, either plainly disappear, or are very small; so that Men, before sufficiently full of Juices, appear wasted, decayed, and unseemly; which is a manifest Sign, that the Skin, or tendinous and membranous Parts, together with the subjacent Vessels, are remarkably constricted; and consequently that the Access of the Blood, and other Humours, to these Parts, is diminished; which, in all Probability, happens, also, in the other membranous Parts, since their State and Condition is the same. Besides, a Salivation, when immoderate, may be checked, or even stopt and diverted by the Exhibition of Sudorifics, with a warm Regimen, or by means of Purgatives; for, by the former, the equal Distribution of the Humours through the whole Body is restored, and by the latter a Congestion of them to other Parts, that is, the Intestines, is produced.

From what has been said it is sufficiently obvious, that the Action of Mercury on the human Body may be so heightened, that, becoming highly contrary and incongruous to the vital Motions, it assumes the Nature of a Poison: For since, as we have already observed, by the Agility and Gravity of the globular Particles of Mercury no very violent Commotions are excited, for this Reason, if any Disadvantages attend the Gravity of crude Mercury, these must happen in such Cases as do not admit of violent and brisk Commotions. When, for Instance, there is a Redundance of thick Humours, these may, by the violent Commotion, be so impelled into the Substance of the Viscera, and other Parts, that, not finding an easy Passage, violent Infarctions, and other Disorders arising from them, are justly to be dreaded. But these Disadvantages are rather to be ascribed to the Ignorance and Rashness of the Physician, than to any inherent Fault in Mercury. But if, by external Causes, the Operation of Mercury is heighten'd, violent and pernicious Commotions of the Humours are easily excited, as we principally observe in Mercurial Suffumigations, the Violence of which is sometimes fatally experienced by Gilders, and confirmed by melancholy Instances given by various Authors. Besides, if a strong nitrous Acid, or that of common Salt, is intimately mixed with Mercury, a Concretion is produced, as is obvious from making Sublimate Mercury, a very small Dose of which proves an highly rank and virulent Poison; for tho' neither of these, separately, is equally offensive to the Body, yet, when these Salts are united with the Globules of Mercury, they, by the rigid Spiculae with which they are furnished, so ruffle and discompose the smooth and polished Surface of the Mercurial Globules, that they adhere more easily than they did before, to the Fibres of the Parts, and are, by the increased Motion of Gravity, more deeply imprinted in them; by which means they not only violently corrode them, but, also, induce inordinate and spasmodic Motions of the nervous System, which never fail to prove fatal to the Patient: But, though the smooth Globules of Mercury may be render'd rough by the saline Sordes of the Humours, and tho', from this Circumstance, principally, arise the prejudicial Commotions of the Humours, produced by the preposterous Use of crude Mercury, yet these Globules cannot, in like manner, assume a corrosive Quality, unless there is a violent Intemperature of the Humours, or unless, in those Diseases which proceed from such a Peccancy of Humours, it is exhibited crude, or by a previous Correction not sufficiently accommodated to them. Hence we may easily infer, that the cautious Use of Mercury, or even a Salivation excited by its means, are of themselves by no means prejudicial to the Body, but are, rather, highly beneficial, in removing several obstinate and chronical Disorders, especially those arising from a considerable Lensor and Immobility of the Humours, or their too great Spissitude, and the Infarction of various Parts, especially those of the glandulous and excretory Kind, arising from this Circumstance: For these Disorders are generally so obstinate, as by no means to yield to the milder Medicines obtained from the Animal and Vegetable Kingdoms; for these, whether of a resinous, or of a salino-sulphureous Nature, are easily so obtunded, and precipitated, by the Sordes of the Primæ Viæ, as only to transmit into the Blood a kind of Exhalation, which will soon be overpower'd by the large Quantity of that peccant Fluid. On the contrary, saline Medicines, tho' in other Cases highly efficacious, are, nevertheless, insufficient for conquering the Obstinacy of chronical Disorders; for those of the volatile Kind, by exagitating the Blood too impetuously, excite preternatural Commotions, and, in a particular manner, throw the Humours, if they are not, before, sufficiently moveable, into the excretory, or even the more noble Viscera, from which they cannot be so easily expressed, since the Efficacy of the volatile Medicine is dissipated: Hence it happens, that these Viscera are violently infarcted, and a Foundation laid for far more terrible Disorders: But if the Salts are of a fixed Nature, whether alkaline, alkalino vitriolic, tartareous, or of any other Kind, they either do not extend their abstergent Virtue beyond the Primæ Viæ; or, if any Part of them reaches the Mass of Blood, it is carried off by the excretory Ducts, by Urine for Instance, before

fore it can produce an Effect of any Importance. Of greater Efficacy, therefore, than all these, or, perhaps, than all the other Metals, is Mercury, which, in the manner above-mentioned, rouses the torpid and immoveable Humours; divides and attenuates those which are viscid; removes the Infarctions of the Glands, and other Parts; separates and absterges the salino-sulphureous Particles of the Venereal Taint, and other polluted Matter, lodged in them, and adhering to the most remote Glands, and even in the Laminæ of the Bones, not without an uncommon Danger of Corruption; and afterwards, by a profuse and liberal Discharge of Saliva, eliminates the Serum from the Body.

The many and great Encomiums, therefore, bestowed upon a Salivation, in order to remove the Obstinacy of the Lues Venerea, are by no means frivolous and ill-grounded, especially since, by the uninterrupted and constant Experience of two Centuries, they are so confirmed, that no one has with Success made an Attempt to depreciate and discredit the prudent Use of a Salivation. Besides, there have been in former Ages, and still are in our own Days, skilful and celebrated Authors, who have recommended this Method of Cure in other chronical Disorders, and such as would not yield to the Efficacy of milder Medicines: But, as this in general is sufficiently obvious from their Writings, we shall only enumerate a few of the principal Cases, in which they recommend a Salivation. For the Cure, then, of a violent Itch, or even of an Elephantiasis, before the Appearance of the Lues Venerea, Quicksilver mixed with Ointments, and applied in that Form, was used by the *Arabians*, and principally recommended by *Mesue in Antidot.* and *Serapion*, as appears from *Sennertus*, who in his *Praxis*, Lib. 6. Par. 4. & Cap. 21. treats of this at greater Length. *Sylvius*, also, in his *Method. Medend.* warmly recommends the Use of a Salivation, for the Cure of an obstinate Itch; and affirms, that this Method ought, also, to be used in other obstinate Disorders. Among others, the celebrated *Willis*, in his *Treatise de Scorbut.* Cap. ult. affirms, that in an inveterate, and what we call a cold Scurvy, a Salivation is so far from being useless, that, to some, it has been found to yield an immediate Relief. And *R. Lentilius*, treading in his Steps, in various Passages of his *Miscel. Pract.* but especially in the second Part of that Work, gives us Instances of a scorbutic Atrophy perfectly cured by means of a Salivation, though not without considerable Uneasiness to the Patient. An Instance of a dropical, scorbutic, and cachectic Habit, cured by a Salivation, is found in *Miscel. Nat. curios. Decad. 2. An. 3. Obs. 173.* *Ballonius*, in his *Epid. Lib. 2.* highly commends a Salivation for the Cure of a Quartan Fever: And *Willis*, in his *Treatise de Feb.* Cap. 4. gives us an Instance of a Woman happily cured of a Quartan Fever by Salivation. This Piece of Practice was, perhaps, first founded on an Observation of *Hippocrates*, who, in his *Epidem. Lib. 1. Sect. 3.* informs us, that obstinate intermittent Fevers frequently terminate in a critical Salivation, the Truth of which, at present, quadrates with the Experience of judicious Physicians. *Sylvius*, in *Prax. Med. Append. 8.* thinks, that in arthritic Pains, when acid and viscid Humours abound, a Salivation would be beneficial out of the Paroxysm: That the Pains of the Gout were removed by a Salivation, but so as to return after three Years, we read in *Wedelius's Tr. de M. F.* In Madness and Melancholy it is extolled as a sovereign Remedy, by *Rolfinckius*, *Epist. cognosc. Part. aff. Lib. 1. Cap. 12.* as, also, by *Willis*, in *Path. Cerebr. Part. 11. Cap. 12.* who affirms, that he knew several mad Persons cured by a copious Salivation long protracted. In obstinate Head-achs, *Rolfinckius*, in *Metb. M. Sp. Lib. 6. Sect. 3. Cap. 1.* highly recommends a Salivation, where he, also, makes mention of an epileptic Patient infected with the Lues Venerea, cured of both his Disorders, by means of a Salivation. And *Willis*, in the Part already quoted, Cap. 3. after in vain using Cathartics and Specifics in Epilepsies, orders a Salivation. In Cataracts, and perfect Blindness arising from them, *Riverius*, in *Prax. Lib. 2. Cap. 5.* and *Boyle, de Util. Phys. Experim.* highly commend a Salivation. *Rhodius*, also, in *Analest. ad Septal.* observes, that an Obstruction of the Optic Nerve, and an Amaurosis arising from it, after in vain using Alterants, and other ophthalmic Medicines, was happily disaffected by a Salivation. For the Cure of inveterate Ulcers, a Salivation is recommended by *Cardilucius*, in *Offic. Sanitat.* And *Morton*, who in *Phthisiolog. Lib. 1. Cap. 5.* styles it the last Asylum of malignant Ulcers.

In consequence of these Encomiums, the Efficacy of a Salivation is become so common a Topic of Conversation, that not only Physicians, but, also, Surgeons and Barbers, boast of great Feats they have performed by it. But it is neither proper, nor are the Observations of the most skilful Physicians so contrived, that any one may rashly lay them down as the Model of his Practice; for, unless the Nature of the Disease is perfectly discover'd, and a due Regard had to the Diversity of Circumstances, it is not to be doubted, but a Salivation may be as quickly productive of bad, as ever it was observed to be of good Effects. But the Circumstances which ought to be duly weighed before the Use of a Salivation, are often so latent and obscure, that they cannot possibly be known: Hence it is, that Patients by this Method, which, in the same Disorders, afforded immediate Relief to others, are either to no Purpose render'd highly uneasy, or, which more

frequently happens, are exposed to imminent and irreparable Danger. For this Reason *Willis*, in *Pharmac. Rat. Cap. 8.* ingenuously confesses, that, by repeated Salivations, he removed the Impetigo of a young Woman, though not so effectually but it again returned with the same Virulence, notwithstanding she used a very exact Regimen. This Physician had not taken to precarious and uncertain Measures, if he had duly considered the various Circumstances, by which the Obstinacy of the Disorder was supported and cherished. For the like Reason a Quartan Fever, at other times happily cured by a Salivation, was unexpectedly excited by its means, as we are informed in *Aët. Hafn. Vol. 5. Obs. 46.* And *Wedelius*, in *Miscell. Nat. curios. Decad. 2. An. 4. Obs. 120.* gives us a fatal Instance of the bad Success of Mercurial Unction, in arthritic Pains. In a Word, there are so many Instances of Salivations, which have produced bad Effects, that it would be both superfluous and tedious to enumerate any more of them. And, if the genuine Worth of Salivation was to be discredited by contrary Observations, I believe as many Instances of its bad, as of its good Effects, might be given: But it is unfair to discredit a Method, supported by the justest Observations of the greatest Men, by such means: But, from the many Instances of bad Effects, produced by Salivation, I think it plainly follows, that the Encomiums bestowed on this Practice are too general; and that the Patients ought not to be exposed to the Danger attending it, except absolute Necessity requires it; when, according to the Maxim of *Celsus*, it is more expedient to use a dubious Remedy, than none at all; for precarious Hope is preferable to absolute Despair. But Rashness, and unreasonably bold Attempts, ought never to stain that salutary Art, the principal End of which is the Health and Safety of Mankind.

Though we are not rashly, and without just Grounds, to dispute the Efficacy of a Salivation in a Lues Venerea, even or the most obstinate and inveterate Kind, yet it must be owned, there are many Circumstances, which either absolutely do not admit of a Salivation in a Lues Venerea, or which, if neglected and overlooked, render it highly dangerous. But, since this is sufficiently obvious to those conversant in Practice, we shall only consider the principal Disadvantages arising from the preposterous Use of Salivations. Among the most frequent Symptoms of a Lues Venerea, of some standing, we may justly reckon the various Disorders incident to the Palate, to the Uvula, and the Tonsils; together with the Erosions and Exulcerations of the Fauces, which, spreading deep into the subjacent Parts, often resemble an eating Cancer, and cannot be totally cured and consolidated, till the Disorder which gives Birth to them is effectually subdued and removed. In this Case, therefore, if in any, we are to observe this Maxim, that the peccant Matter is neither to be convey'd to, nor evacuated by, the Part affected: Otherwise it must almost necessarily happen, that, by an Accumulation of the Saliva, which, to the Taste of the Patient, is æruginous, virulent, and has its Qualities heighten'd by the Mercury, a Gangrene must be produced, and soon after succeeded by a fatal Sphacelus of these Parts: Of which, among others, *Hildanus* furnishes us with some remarkable Instances, in *Cent. 3. Obs. 92.* The Use of a Salivation is, also, discharged, in Cases where, besides a Redundance of thick and viscid Humours, the Patients Strength is much impaired; and this is, indeed, a highly just and rational Maxim; for since, in consequence of the Languor of the whole Body, and the Defect of a due Tone, and sufficient moving Force, all the Parts, and even the more noble Viscera, are preternaturally flaccid, hence it happens, that the viscid Sordes of the Humours, being thrown into violent Commotions by the Efficacy of the Mercury, are easily, and in great Abundance, thrown into these Viscera, but cannot, in consequence of the Weakness of the moving Fibres, be afterwards so easily expelled from them: Hence these accumulated and peccant Humours become stagnant, and induce terrible Symptoms of various Kinds: For if these are copiously forced to the Glands of the Fauces, the Maxillæ, the Tonsil, or even the Tongue, these Parts become so tumid, that Deglutition and Respiration are entirely intercepted. With respect to these Misfortunes, the Reader may consult *Sennert. Prax. Med. Part. 4. Lib. 6.* *Fallopins*, in his *Treatise de Lue Venerea*; and *Sylvius*, in his *Metb. Med. Lib. 2. Cap. 11.* But a more infallible and irreparable Misfortune is produced, when these Sordes are conveyed to the Brain, already weaken'd by previous Disorders; for, by this means, Palsies, Apoplexies, and other terrible lethargic Disorders, must necessarily be soon produced. But since, in a Lues Venerea of some standing, and deeply rooted in the Humours, there is generally a large Quantity of peccant Humours, and since the Strength of the Patient is, for the most part, much exhausted, either by the Force of the Disease, previous Intemperance, Surfeits, or an Excess of Venery, hence it often happens, that, in those Circumstances, a Salivation, by some thought the only sovereign Remedy for a Lues Venerea, is highly improper and absurd. For this Reason a skilful Physician must be-think himself of some other equally efficacious Method, accommodated to such Circumstances, especially since it is well known, that Decoctions of the Woods operate but in a very faint and languid manner, in a Lues Venerea of a considerable standing.

A great many are indeed of Opinion, that, even in these Circumstances, the Body may be render'd fit for bearing a Salivation; if, for Instance, before its Use, the Redundance of the peccant Humours is lessened, and their Spissitude corrected by Venesections, Purgatives, and the repeated Exhibition of Sudorifics. But I rather approve of the Opinion of *Sydenham*, who, in his *Treatise de Lue Vener.* informs us, that, by such Measures, the Body is no more prepared for bearing a Salivation, than the Bodies of Soldiers would be prepared for Battle, by cutting their Nerves. These are the principal Cases in which a Salivation is improper in a Lues Venerea.

But if we make a general Estimate of the other Disorders, for which we have above observed a Salivation was commended, we shall find their State and Condition to be of two Kinds: For they are either habitual, and supported by Causes deeply rooted in the Body; or they consist in a Peccancy of the Humours, in their irregular Motion, for Instance, or their bad Qualities. If they are of the former Kind, that is, if they are hereditary, or supported by an Exulceration and Corruption of any of the Viscera absolutely necessary to the vital Motions, or by scirrhus Obstructions, or tartareous Concretions copiously accumulated, and becoming solid, in any Parts of the Body, they cannot be perfectly subdued and removed either by a Salivation, or any other means whatever,

Afferat ipse licet sacras Epidaurius herbas.

It is, therefore, expedient, when Health cannot be restored, to attempt the Mitigation of the Symptoms of the Disorder, that by this means the Patient may pass the remaining Part of his Life with as much Ease as possible; for if a Patient, in this Condition, is subjected to a Salivation, he will, in vain, be rack'd with numberless Pains; or, what to me seems more probable, his Death will, by that means, be considerably accelerated; for this severe and exhausting Method by Salivation, will either totally destroy the small Degrees of Strength left by the Violence of the Disease, or, at least, put the Patient into such a deplorable Situation, that he cannot easily recover them; because, when the Saliva, which is the principal Menstruum of the human Body, is for some Weeks successively exhausted, or, by the Access of the Mercury, contaminated, and spoiled by an æruginous Nidor, the Digestion of the Aliments, and Elaboration of the Chyle, on which the Preservation of the Strength depends, must be greatly weakened. But if, without any considerable Disorder of the Viscera, these chronical Diseases should proceed from a Peccancy of the Humours, they both may be cured, and frequently are so, by other Medicines, which prove equally efficacious, without exciting these Commotions, and exhausting Discharges of Saliva, which, for the most part, are more terrible than the Disorder itself. Besides, upon a mature Consideration of all Circumstances, I see no Necessity for so copious Discharges of Saliva in the Cure of most chronical Diseases; for, when a Redundance of the Humours is to be removed, which, however, rarely happens in chronical Cases, this End is more properly obtained by Evacuations, attended with less Trouble, and made from more convenient Parts, by Venesection, for Instance, Purgatives, and Medicines of a diuretic Quality. If, on the contrary, the Quality of the Humours, whatever it is, is to be corrected; if, for Instance, their too great Lentor and Viscidity, and various tartareous, salino-sulphureous, acrid Substances, sheathed up under these, are to be removed; the Intention is best answered without these exhausting Salivations, or the Use of Evacuants; for Humours of this kind are most commodiously and properly corrected by such Medicines as by a constant, but not too quick and impetuous an Action, excite stronger Commotions in the moving Fibres of the Parts, and produce more frequent and systaltic Motions in them; in consequence of which repeated Concussions, and quicker Transpressions, the Humours are, in the porous and muscular Substance of the Body, so divided and attenuated, that the saline Sordes, sheathed up in them, are rendered fit for passing gradually and insensibly through proper Emunctories, provided these are, by a suitable Regimen, kept sufficiently pervious and open.

Since, therefore, this Method of Cure is not only the most safe and pleasant, but, also, sufficiently efficacious, it ought justly to be substituted in the room of a tedious and troublesome Salivation, especially since in Circumstances which do not admit of a Salivation, as we have above observed, such Medicines are necessary, as are capable, without exciting any uneasy and dangerous Commotions, of subduing chronical Diseases, which prove too obstinate for the milder Medicines obtained from the Vegetable and Animal Kingdoms. For this Purpose, the Chymists have judged Mercury the most proper of all other Substances; but, at the same time, it must be corrected in such a manner, as that, being divested of its drastic Qualities, it may, without exciting a Salivation, exert its Efficacy and Influence on the human Body. For this Reason various Authors have invented various Preparations of Mercury, most of which, not answering the Characters given of them, are justly exploded, as useless in the modern Practice. But the others, whose Use is confirmed by frequent and repeated Experiments, as they are not to be

found in the Pharmacopeias, Dispensatories, and other Collections of Recipes, so they are used by few, and only known to those who are conversant in Chymistry. Hence we see the Usefulness of this Art, which is so necessary to a Physician, that, without an accurate Knowledge of it, *Sylvius* affirmed, he could neither acquire a Reputation at first, nor support and maintain it afterwards. But, that we may have some certain Foundation for making an Estimate of the numberless Preparations of Mercury, we shall, from what has been said, take a View of those Properties, which produce, and give Birth to, the drastic Quality of Mercury. Now these are, the Mobility of the Globules of which it is composed, and their Tendency to attract acrid Humours, from the Access of which those Commotions, produced by the Use of Preparations of crude Mercury, principally arise. Mercury is, therefore, most commodiously and efficaciously corrected by the Addition of such a Substance, as, being itself free from a drastic Quality, is capable of being so dispersed and mixed with the Mercurial Globules, that by its Intervention the too strong Adhesion of the acrid Salts may be prevented, and, at the same time, the too brisk Impetus of the Mercurial Globules checked, without totally destroying their Agility, and penetrating Force, but leaving them in such a Condition, as that they are capable, by their constant, and, as yet, sufficiently strong Action, of exciting brisker Motions in the moving Fibres, without any violent or prejudicial Commotions.

It seems to have been the Opinion of many, that Mercury is very properly corrected by an Admixture and Sublimation with Sulphur. This gave Birth to the Production of Cinnabar, and its various Species, which really differ very little from each other; for it is sufficiently known, that each of them is produced by a Mixture of Quicksilver with Sulphur. But whether the Sulphur is of the common fossile Kind, and is united with the Mercury in the Mines, whether it is added artificially, or, lastly, whether it is extracted from Antimony, after the Reguline Substance is dissolved by the Salts of Mercury Sublimate, yet it is still the same Sulphur, and, consequently, must, in each Case, produce a Cinnabar of the same Nature and Qualities, the Efficacy of which, in removing obstinate Disorders, and especially Epilepsies, is so highly extolled, that there is no Necessity for any additional Encomiums. And certainly this is a Remedy so highly safe and innocent, that it may confidently, and without any Fear of Danger, be exhibited to Patients of all Ages and Constitutions, in all Disorders, whether chronical or acute; for the Sulphur, which is intimately mixed, and closely associated, with the Mercury, by its unctuous Substance, not only bridges and stops the Motion of the Mercurial Globules, and checks their Impetus, but, also, hinders the external Salts from acting on the Mercury, and adhering to it. Hence it is that Cinnabar, by means of the most intensely acid Liquors, is neither dissolved, nor acquires a virulent Taste; which, however, easily happens, when these acid Liquors are poured upon Quicksilver. In Cinnabar the Sulphur is so intimately mixed with the Mercury, that, though it is boiled in the strongest Lixivium, it is not, as most People think, by that means dissolved. Hence some are too much, though in vain, afraid of the Use of Cinnabar in those Diseases where there is a saline and acrid Intemperies, joined with a preternatural Thickness of the Humours, such as a Scurvy, for Instance, since the Cinnabar can by no means be changed. The Opinion of those is, also, false and groundless, who class Cinnabar among the anodyne, demulcent, and absorbent Medicines; and, by that means, to no Purpose, augment the Number of these, which is already too large; for whatever Relief these Medicines afford in Disorders of the Brain and Nerves, is principally produced by their gently discussing the extravasated Blood and Lymph stagnating in these Parts.

But since in Cinnabar the Mercury is so much fixed, as to be in a great measure deprived of its natural Agility, when used in this manner, which is the common Custom, it rarely or never produces any considerable Effect; for, if we form a Judgment from what has been said, we must evidently perceive, that two or three Grains of Cinnabar, by which a large Quantity of absorbent Powder is rather tinged than heightened in its Efficacy, can produce no Effect; and, if any happy and salutary Effect is produced by the Medicine thus faintly tinged, it is undoubtedly owing to the Efficacy of the other Ingredient, and not to the Cinnabar. But this Circumstance by no means detracts from the Virtues of Cinnabar, which would be sufficiently conspicuous, if it was only duly prepared, and exhibited in a larger Dose; for it is certain, from the Writings of Men equally famed for their Skill in Physic, and Veneration for Truth, that in former Times, when Cinnabar was frequently used by *Hartman* and *Michaeli*, it produced very considerable and salutary Effects: But we must observe, that they used Cinnabar not once or twice, as at present, but, at least, six times sublimed; and, in my Opinion, not without good Reason; for by the violent Motion of the Fire or Ether, which, in Sublimation, agitates the Cinnabar, the Mercurial Substance is divided, attenuated, and rendered more spirituous; by which means the Cinnabar is more exalted, and, as it were, refined. Besides, it is absolutely necessary, that the Cinnabar should, by long Trituration, or rather an artificial

Elutriation, be reduced to Particles of the smallest Surfaces, or into a Powder far more fine and impalpable, than it is commonly to be had in Shops; for, unless it is thus fine, the gross and weighty Molecules of the Cinnabar, which are not capable of being dissolved by the Juices of the Body, will remain a dead and inactive Weight in the Primæ Viæ, but never convey their Influence to the Mass of Blood and Humours. Besides, we must carefully observe, that, if in the Cure of the more terrible Disorders of the Lymph, and nervous System, any thing is to be attempted by means of Cinnabar, it is to be exhibited in far larger Doses, than it generally is, from fifteen Grains, for Instance, or one Scruple, to half a Dram, or more, previously diluted in some aqueous Vehicle, and exhibited for one Dose. And this Dose, according to the Circumstances of the Patient, is to be repeated twice or thrice a Day; which Method may, without any Danger, be continued for a considerable Number of Days, provided the Body is all the while sufficiently soluble, and the Strength of the Primæ Viæ unimpaired. *Stahl*, as is obvious from his Notes *ad Poterium*, frequently used this Method with Success, tho' his Practice, in this respect, has not as yet been imitated. But that learned Physician confirmed me in the Justness of this Practice, by many Cases, which he generously communicated to me. At *Clausthal*, a Town near the *Black Forest*, and fam'd for metallic Mines, the Epilepsies and Convulsions of the Miners, produced by Falls, and Blows of the Head, were, by this Method of exhibiting Cinnabar, so speedily and efficaciously cured, that some miraculous Effect was thought to have been produced. Cinnabar, exhibited in the above-mentioned Dose and Manner, produced the like Effect at *Halberstadt*, in a Man of sixty Years of Age, who, after a violent Contusion of the Head, remained dumb for ten Days, was more than thirty times every Day seized with an epileptic Fit, and lay entirely deprived of the Exercise of his Reason. But by a Scruple of Cinnabar alone, exhibited thrice a Day, for ten Days successively, he was, without any other Remedies, effectually restored to his former Health. I shall not, at greater Length, insist upon the speedy and surprising Relief, which, by this Method, has been afforded in epileptic Cases, lest I should be suspected to over-do my Encomiums on Cinnabar; which, when exhibited in proper Cases, and in sufficient Doses, repeated according to the Circumstances of the Patient, will always prove efficacious. But I must here observe, that, by the preposterous and ill-grounded Cowardice of many, especially in determining the Doses of Medicines, it happens, that the Obstinacy of chronic Diseases is so rarely subdued by the Efficacy of Medicines; which, considering the scanty Doses in which they are exhibited, is almost none at all, but rather blunted, and wearied out by a tedious Expectation. But, at the same time, unless the Cause of the Disorder is removed, the Patient can never, by these Means, be restored to Health.

But as Cinnabar only produces its due Effects, when exhibited in large Doses often repeated, so it cannot be endur'd in so large Quantities, but by those whose Primæ Viæ are sufficiently strong; for, if the Fibres of the Stomach and Intestines are flaccid, and destitute of their due Tone, and consequently their peristaltic Motion impaired, the accumulated Cinnabar, which, by means of the Mucus, adheres to the Sides of these Parts, greatly oppresses them. Besides, as the Mercury is so fixed by the Substance of the Sulphur, which, when thoroughly melted by the Force of Fire, is intimately mixed with its smallest Globules, Cinnabar is, for this Reason, somewhat slow and languid in removing obstinate chronic Disorders. For which Reason, in Cases of this Nature, we justly prefer to Cinnabar an extemporaneous Mixture of Mercury and Sulphur, which, on account of its Colour, is called *Æthiops Mineral*; for the Sulphur, which, in such a Mixture, is interspersed and mixed with all the Globules of the Mercury, prevents the Access of acrid Salts, and, at the same time, because it is not so firmly mixed, and intimately colligated with them, does not so powerfully bind up, and check their Mobility and penetrating Quality, as in the Cinnabar. Besides, *Æthiops Mineral* is, by *Mayer* and *Harris*, extol'd not only for killing Worms, but, also, for removing Cachexies, Scurvies proceeding from a cold Cause, and even a Lues Venerea, or other Disorders which require the resolvent Efficacy of Mercury; in which Cases, a small Dose of it produces happier Effects, than can be obtained by far larger Quantities of Cinnabar, especially if, in preparing it, we use pure and native Sulphur dropping from subterraneous Caverns, previously deprived of its redundant Acid, and rendered more subtle by repeated Sublimations with Quick-lime. By which means it may be so corrected and exalted, as to prove a far more powerful Resolvent, and Sudorific, than the common and more impure Species of Sulphur. When mixed, therefore with the Mercury duly depurated by boiling in Wax, and Sublimation, with a large Quantity of Quick-lime, it affords a Medicine at once highly safe and efficacious.

The other Preparations, Corrections, and Elaborations, of Mercury, which pass under various pompous Names, and are promiscuously recommended, are so incredibly numerous, that it would be too tedious to enumerate the various Species of precipitated Mercury alone. Besides, so few of them answer the great

Encomiums bestow'd on them by their boasting Authors, that, in many respects, crude Mercury, mix'd with Sugar for internal Purposes, or with proper Ointments for Uction, is possessed of a less drastic Quality, and often produces more happy Effects. 'Tis, therefore, superfluous to make a laborious Disquisition into the Natures of each of these Preparations, since, from what has been said, we may easily form a Judgment of their respective Qualities. Most of the Compositions of Mercurial Medicines, destin'd for internal Use, which are at present known, agree in the most material and important Circumstances; and the whole of the Affair consists in this, that the Mercury, whether by itself, or previously amalgamated with other metallic Bodies, be dissolved by acid and corrosive Menstruums, and afterwards, by Precipitation with Salts of an opposite Nature, or by an Abstraction of the acid Menstruums, depriv'd of its Mobility, and reduced to a Powder. But, when treated in this manner, it answers neither of the Ends, which ought to be obtained by the Preparation; for the Spicule of the caustic Menstruums are intimately mixed with the Globules of the Mercury, so that they cannot afterwards be separated by any Elutriations, however frequent, or by Deflagrations with Spirit of Wine; and, consequently, cannot be divested of that corrosive and drastic Quality, which the Mercury, by that means, acquires. If the Mercury, rather contaminated than corrected in this manner, is taken internally, it generally excites a sudden Salivation, violent Purgings, impetuous Vomings, or Erosions in the Primæ Viæ, and other Parts, not without a manifest Danger of future and greater Misfortunes. But most of the laborious Preparations of Mercury have a Tendency to excite these violent Commotions; and such as are of an opposite Nature, as they are very few, so, if they produce any salutary Effects internally, these are not owing to the Efficacy of the Menstruums, and caustic Salts, by which means a drastic Quality must necessarily be excited; but as they are joined with such Bodies, as, by interpolating themselves between the Globules of the Mercury, check their Impetus, hinder the Combination of the Salts, and by this means prevent Commotions in the Body, they act in a salutary Manner.

But the Bodies which produce this Effect, and are commonly mixed with Mercury, are highly pure Metals, no ways unfriendly to the Constitution, such as pure Gold and Tin, which excellently check the Violence of Mercury, as is sufficiently obvious from frequent Observation, and especially from the Effects of the *Mercurius Diaphoreticus Fovialis*, which is most properly prepared thus: With Laminæ or pure *British* Tin, and Mercury well depurated, an Amalgama is made without Fire. From this Amalgama, placed in a glass Retort, a sufficient Quantity of the Spirit of Nitre is drawn by means of a Sand-heat. The whitish Powder, remaining in the Bottom of the Retort after the Abstraction of the Spirit, is to beedulcorated as well as possible with Rain-water; in order to obtain which End the more effectually, Spirit of Wine is to be frequently deflagrated upon the Powder, that by this means the Spicule of the Menstruum, adhering to it, may be the better drawn out, and afterwards the more easily receiv'd into the warm Water. But that the Spicule of the corrosive Menstruum which cannot be carry'd off by Elutriation, may be destroyed, the Powder is for some Hours to be carefully tritured on a Marble, pouring on it, at proper Intervals, a sufficient Quantity of the Liquor of fix'd Nitre. And this Trituration is to be repeated three times, the Powder being suffer'd to become dry before each time; and, lastly, the dry'd Matter is to be put into warm Water, and the Powder which subsides, collected for Use. This Preparation rarely or never excites a Salivation, unless when it is exhibited in too large a Dose, or its Use is too long persisted in; but, in a far smaller Dose than Cinnabar, it generally exerts its Efficacy by somewhat increasing insensible Perspiration, or by exciting Sweats, if a proper Regimen is observed; for the Sulphur of the Tin, the Presence of which is discovered by its kindling with Nitre, in the Subtlety of its Parts, far exceeds the common Sulphur, or the impure Sulphur of Antimony, used in the Preparation of Cinnabar; in consequence of which, it not only checks the excessive Impetus of the Mercurial Globules, but also prevents the Access of acrid Salts, whilst, at the same time, it does not so effectually fix and obtund the penetrating Quality of the Mercurial Globules, as the coarser Sulphur does in Cinnabar.

But, if in the room of Tin we substitute Gold, or at least add a Portion of the latter to the former, and intimately mix them with the Mercury, a Medicine will be produced, in Efficacy far exceeding that last describ'd; for, as the Gold, in consequence of its being an homogeneous Substance, is easily and intimately mix'd with the Mercury, so, by the considerable Weight of its minute Parts, interspersed with its Globules, it heightens its Virtues, and renders it more efficacious, whilst it changes the too sudden Imperus, which the Mercurial Globules would otherwise excite in the human Body, into a more constant, and, in consequence of its Gravity, a more penetrating Action. Besides, Gold is only capable of being acted upon, and dissolved, by the most powerful Menstruums, such as Aqua Regia; in consequence of which, when united with Mercury, it prevents that Access of acrid Salts, which otherwise readily happens in the Juices of the human

human Body; by which means it excellently prevents the violent Commotions, which would otherwise be excited. Various Mixtures of Gold with Mercury are contrived, in order to reduce them to the Form of a Powder: But the least expensive Method is this; *Hungarian*, or any other Species of pure Gold, is to be dissolved in Aqua Regia. Into this Solution a proper Quantity of duly depurated Mercury is to be gradually instill'd. Upon this, the Gold, together with a Portion of the Mercury, is forthwith precipitated to the Bottom in the Form of a Powder, which, when the Menstruum is poured off, is to be gathered, corrected by the Addition of some alkaline Liquor, and carefully edulcorated by frequent Elutriations, and Deflagrations of Spirit of Wine. But if a sufficient Quantity of *Aurum Fulminans*, or, which is better, of that redish Powder precipitated by Water from a Solution of Gold and Tin, is, by long Trituration, and the Asperision of Water, duly mixed with white precipitated Mercury previously well wash'd, a Medicine is obtain'd of equal Efficacy with that last described, and generally less expensive. But tho' these Medicines are pretty efficacious, if duly exhibited, yet since, in these Preparations, the Gold is not intimately mix'd with the Mercury, but only adheres to the Surfaces of its Globules, as is evident from this, that by a moderate Fire the Mercury may be again separated from it, and since Medicines of this kind cannot be perfectly divested of the Acidity of the corrosive Menstruum, hence it happens, that, not agreeing well with delicate and tender Constitutions, they of en excite a Salivation, tho' of a far milder and more gentle Kind, than those raised by the Compositions of crude Mercury. For this Reason the Chymists have earnestly desired such a Correction of Mercury, as, without the Addition of corrosive Menstruums, might be commodiously carry'd on by the moderate Action of Fire, and consist in its intimate Mixture with Gold; which End may so commodiously be obtained by the Method presently to be laid down, in such a manner, that the Mercury, its former Texture being chang'd, is converted into an highly-fix'd Powder of a redish purple Colour, and not easily to be reduced to its constituent Parts. 'Tis to no Purpose to object, that this Powder, in consequence of its fix'd Nature, can produce no considerable Effects on the human Body; for tho' it is Proof against the Action of the Fire, and tho' the Texture of the Gold used in preparing it is so firm, as to resist the Influence of corrosive Menstruums, yet, by the Mercury, previously exalted in a proper manner, and render'd more spirituous, the firmest Cohesion of Gold may be thoroughly dissolved, and, by a subsequent Digestion, its minutest Parts so united with the Globules of the Mercury, that from this mutual Coalition there may be produced a concreted Substance, not only capable of being quickly exagitated by the gentlest Heat of the Body, but, also, productive of very singular Effects, by no means to be obtained by the other Corrections of Mercury, as is ingeniously demonstrated by *Stahl in Notis ad Poterium*, in the following Words: "Tho' very few Remedies of singular Efficacy are prepar'd with Gold, yet this Metal is of great Use and Service in the Preparation of an highly efficacious Medicine, if it is reduc'd to a due Temperament by a strict and intimate Union with Mercury, which abounds with an highly active mineral Spirit; for the fixed Substance of the Gold receives the highly minute Particles of the Mercury into its Pores; so that an equable Harmony and Proportion betwixt them is produc'd: Hence, in my Opinion, nothing is a more proper Corrector for Mercury than Gold, whilst, at the same time nothing exalts, actuates, and increases the medicinal Virtues of Gold, so effectually as Mercury.

In order, therefore, to produce a stable and permanent Mixture of Gold with Mercury, the first thing necessary is, to separate from the latter, that Mineral Earth, with which it abounds, and is, as it were, loaded, that by this means the ethereal Fluid may afterwards act more forcibly on the more pure and subtile Globules of the Mercury, and, by forcing them effectually into the Pores of the Gold, mix them intimately with the pure Earth contain'd in that Metal. The Mercury prepar'd in this manner is sometimes call'd *Virgin Mercury*; and at other times distinguished by the Epithets *animated*, and *philosophical*. Tho' this Mercury, is with great Expences prepared in different Methods by the Chymists, yet we shall not pretend to form a Judgment of any of them. That Method, however, describ'd, tho' in mystical Terms, by the Author who assumes the Name of *Philaletha*, in his *Introitus apertus ad ocellum Regis Palatium*, and from him, as the *Literati* think, tho' some, what more distinctly, taken by the Author of *Rapheus Redivivus*, is found to answer upon making the Experiment; and is, therefore, highly celebrated by the more skilful Chymists. But, as the mystical Style of these Authors is not to be comprehended without some Thought and Consideration, I shall, in plain and intelligible Language, give the Description of animated Mercury, communicated by *Stahl*, and which, from my own Experience, I have found to be accurate and just. This Author, then, orders common Quicksilver to be amalgamated with genuine Martial Regulus of Antimony, (for the common sort does not attract the smallest Particle of Iron) by means of the *two Doves of Diana*, which many of the mystical Chymists

take to be two Parts of Silver; to which they have been perhaps induc'd, by some imaginary and hieroglyphical Analogy between Silver and Doves, or, perhaps, by the Authority of *Alexander Suchtenius*, who formerly attempted the Correction of this Species of Mercury, as we may see in his *Traſſat. de Antim.* 2. But others, and especially *Becher*, in *Supplement. Phys. Subterr.* assert, that by these two Doves are meant two Salts, alkaline Salt, for Instance, and Sal Ammoniac. Both these Opinions are agreeable to Reason, and confirm'd by Experience; but the Process will proceed more expeditiously, if one Part of Regulus of Antimony, and two Parts of Silver, are melted by means of Fire; and if to these, when united, we add Mercury, with a due Quantity of these Salts; and thus make an Amalgama. Then the Amalgama is to be strongly triturated in a glass Mortar, pouring upon it, at proper Intervals, a sufficient Quantity of Rain-water; which by that means becomes black, and, when pour'd off, exhibits a Powder of the same Colour, which, when kindled, diffuses a fetid Smell, tho' Salts were not us'd in the Amalgamation. But this Trituration, with frequent Affusions of the Rain-water, is to be continued, till all the Regulus of Antimony is so effectually wash'd off, that nothing but the pure Amalgama is left. After this, the Amalgama is to be put into a glass Retort, and the Mercury abstracted by a Sand-heat. By this means the pure Silver is left in the Bottom of the Retort; and this Silver, when mixed with the Regulus of Antimony, is again to be amalgamated by the Addition of the Salts, afterwards depurated by the like Trituration, and last of all distill'd. When these Measures are repeated for at least seven or nine times, a much more pure and subtile Mercury is afforded, which not only acts more powerfully upon other Metals, but, also, produces more conspicuous and salutary Effects on the human Body. The Mercury must be exalted in this manner, in order to render it fit for the Preparation of this celebrated and efficacious Medicine. This Discovery, tho' originally made and perfected by Experiments, is nevertheless supported by Reasons, which greatly illustrate it; for whilst the Martial Regulus of Antimony is, by its Colloquition, intimately mixed with the minutest Globules of the Silver, the Substance of that Fluid, which was before smooth and polish'd, is, by the angular and irregular Parts of the Regulus, so chang'd, that the minutest Parts of the Silver not only acquire unequal Surfaces, but, also, have their Interstices render'd smaller, into which when the Mercury is, by a due Amalgamation, and the mutual Conflict of the Salts, violently and impetuously forc'd, the gross and impure Earth of the Mercury is, as it were, separated, and torn from its Adhesion with the other Parts; and is afterwards, when the Globules of the Mercury enter smaller and more tortuous Pores, to be absterg'd and remov'd; together with the heterogeneous Parts of the Regulus, by means of frequent Triturations and Washings. The Mercury produc'd by this laborious Preparation is to be afterwards added to pure Gold; to one Part of which, three or four, or (according to *Philaletha*) only two Parts of Mercury, are to be united and join'd by the common Method of Amalgamation. After this, the Amalgama is to be put into a glass Phial with a flat Bottom, that the Heat may act on a larger Surface. Then the Phial, when the grosser Air is exhausted, left, being expanded by the Heat, it should burst the Vessel, is to be hermetically seal'd; and, in that Species of Furnace call'd *Athanas*, exposed to a proper Digestion, for seven, or even nine solar Months, successively, gradually proceeding from a fainter to a stronger Degree of Fire. As in this Digestion the Whole of the Affair consists, so, if it is duly made, the Amalgama will be gradually converted into a redish Powder; which, during the first Months of the Digestion, is not so corrected, but that it will excite Fluxes or Salvations, especially in tender Constitutions. But by a protracted Digestion it is so perfected, and divested of all its drastic Qualities, that the fixed Powder produc'd by it may be safely exhibited to the Quantity of two, three, or four Grains for a Dose, and thus persisted in for some Days; so that those of the most delicate Constitutions have no Reason to be afraid of having a Salivation, or any of the Commotions produc'd by the Preparations of crude Mercury, excited by it.

This Exaltation and Correction of Mercury is, therefore, the most proper and agreeable to the Principles of rational Chymistry: And; as this Method is class'd among the more abstruse and sacred Mysteries, 'tis, also, so highly esteem'd by the curious and industrious Part of the Chymists, that they have judg'd Mercury, thus animated, necessary to the Discovery of the Philosophers Stone: But, struck with Terror at the Fate of others, who have wrote on this Subject, I shall only consider the medicinal Uses of Mercury thus prepar'd, which are not only very considerable in themselves, but, also, superior to those of other Medicines. For this Reason it has, by several eminent Physicians, been with uncommon Success prescrib'd for various obstinate Diseases, which would not yield to the Efficacy of other Medicines. Thus, as I have been inform'd by *Stahl* it was frequently ordered by *Cretel*, an eminent and successful Practitioner. The Efficacy also of this solar

animated Mercury was at *Hall* often happily experienced by the celebrated Chymist *Hochgraff*; especially in subduing those Reproaches of Mercury, Quartan Fevers, and Gouts: So that some who labour'd long under the former, and one afflicted with it for four Years successively, were, by a few Doses of this Medicine, restor'd to perfect Health and Ease: But, among the gouty Patients, who were by means of this Medicine quickly cur'd, we may justly reckon a certain Man, who, being miserably rack'd with fix'd arthritic Pains, and Contractions of his Limbs, was perfectly restor'd to his former Health, without ever having had a Relapse. The Success of *Cnoeffelius*, in curing the Gout with Mercury thus fix'd, may be seen in *Append. ad Miscell. Nat. curios.* and confirm'd by unexceptionable Witnesses that is, the Persons cur'd. With respect to this, the Reader may consult that Work, intitled, *Epistola de Curata Podagra per D. Andream Cnoeffelium, Gorlitzii, 1644.* These Instances sufficiently prove, that the Encomiums bestow'd on this Medicine are not groundless and overdone, but supported by Experience; So that there is no manner of Doubt, but that, without any Dread of Danger, this Medicine is capable of producing such salutary Effects in obstinate Disorders, if really curable, as can neither be obtain'd by any other Remedies of the Animal and Vegetable Kingdom hitherto known, nor by a Mercurial Salivation, which is not only harsh, and attended with violent and often dangerous Commotions, but is, also, frequently highly tedious. The Use of the solar animated Mercury is preferable to a Salivation, because it may be gratefully exhibited to the most delicate Constitutions in a due manner, and small Doses, provided it is once or twice a Day taken, and its Use persisted in, according to the Circumstances of the Patient; which may be done in a sufficiently grateful manner, if the Dose is mix'd with Conserve of Roses, or any other agreeable Conserve, without the Use of any other Medicines. But, before the Exhibition of this Preparation, the *Primæ Viæ* must be freed from those Sordes, which might prevent the Efficacy of the Medicine, by Abstergents, whose Efficacy is heighten'd by a gently stimulating resinous Purgative; since drastic Purgatives, as they are rarely proper, so they are always prejudicial, in the Beginning of a Cure: The *Primæ Viæ* may, also, according to the Situation of the Patient, be freed from the Sordes contain'd in them, by a Vomit; which, however, is not to be exhibited without the previous Use of saline and inciding Medicines. When this Medicine is taken, after such a previous Preparation of the Body, 'tis proper to drink after it some warm aqueous Liquor; such as Tea, Coffee, an Infusion of *Paul's* Betony, or a Decoction of Sarsaparilla, and China, heighten'd by Sassafras-bark. These diluting Liquors make the Medicine exert its proper Efficacy, render the Body perspirable, and receive the saline Sordes, disengag'd by the Force and Energy of the Medicine, and which, being dispers'd in them, may be without any Violence afterwards eliminated from the Body thro' proper Emunctories, especially thro' the Pores of the Skin, provided they are kept sufficiently open by due Regimen, in which, by proper Cloths, the external Cold is excluded without inducing an intolerable and troublesome Heat, and the whole Body is preserved in a gentle and moist Warmth; for profuse Sweats are so far from being necessary, or productive of happy Effects, in the Cure of almost all chronical Diseases, that they rather exhaust the Strength, already too much impair'd in the Course of a slow Disorder. But, if such Sweats are forc'd, and, as it were, extorted, as they often are, the greatest Misfortunes, easily productive of Infarctions of the Viscera, are to be dreaded. With respect to this, the Reader may consult various Passages of *Sylvius* in *Prax. Med.* but especially *Append. Tract. 3.* Let all violent and sudden Commotions, therefore, be avoided, as much as possible; and, as this Medicine is not productive of such Effects, the viscid and peccant Matter will not, by one or two Doses of it, which Quacks affirm of their Medicines, be subdued and eliminated; but must be conquer'd by the continual and uninterrupted, tho' mild and gentle, Action of it. Thus, tho' *Lucas Tozzi*, Physician to Pope *Innocent* the Twelfth, in his *Praxis Medica*, asserts, that by Mercury thus fix'd, exhibited only seven times, he totally remov'd a Lues Venerea, and a Quartan Fever, without being so arrogant, as to call his Veracity into Question, I must only say, that I can hardly believe, that in cold Climates, such as are more Northerly, and where, in chronical Disorders, there is such a Viscidity and Redundance of the peccant Humours, the like Effect can be so speedily, and in so few Days, produc'd by this Medicine. Such an happy and salutary Effect will, however, without any Violence to the Patient, be much accelerated, if, after the repeated Use of the Medicine for some Days, we interpose balsamic and saline sulphureous Medicines, the most considerable and efficacious of which are *Stahl's Elixir, Balsamicum*; or the *Spiritus oleosus*, prepar'd according to the Directions of *Sylvius*, and accommodated to the Situation of the Patients: And certainly a moderate Dose of these, daily taken between Meals, and duly persisted in, calmly accelerates the Cure of chronical Disorders; an Effect not to be produc'd by more violent Means: For, as the languid Digestion

is by this means promoted, the Chyle, before not sufficiently subdu'd, and, by its Viscidity, contaminating the Humours, is corrected, and, as it were, sheath'd up, in these balsamic Substances. The vital Energy and Turgeiscence of the Humours before suppress'd, and, as it were, suffocated, by their preternatural Lensor, is so animated with fresh Vigour, that the Fomes of the obstinate Disorder is thereby seasonably destroy'd, especially if the Efficacy of the Medicines is back'd by a proper Regimen.

But, however easily the rich and prosperous Part of Mankind may be able to support the Continuation of a Cure attempted by this solar Mercury, yet those who are straitened in their Circumstances, can by no means afford the Expences necessary for such a Course; for which Reason, I think they may, at a far cheaper Rate, have the same Ends answered by the *Mercurius Diaphoreticus Jovialis*: And in this Sentiment I am confirmed, not only by the Experiments made by skillful Physicians, but, also, by the Composition of the Medicine, in which every thing is calculated for promoting the same Ends with Mercury. As the Operation of this Medicine is somewhat more quick and speedy than that of solar animated Mercury, so, when it is exhibited in large Doses, in those Disorders, where there is a violent Intemperature of the Humours, such as a Lues Venerea, and a Scurvy, it excites a Kind of Salivation; yet this Salivation, unless excited by improper Doses of it, is so gentle, as hardly to be perceived by the Patients, or, at least, is supported without any Trouble. But in other Cases, where there is not such a large Quantity of acrid Humours, but rather an Immobility and Spissitude of the Juices, it promotes the Cure without a Salivation, a Circumstance peculiar to itself. Besides, a Discharge of the Saliva, excited by this Medicine, may almost be universally prevented, if the Causes concurring to it are only seasonably checked and removed. And since, only by the Access of a violent Acrimony, the Medicine can be so heightened, as to excite any Degree of a Salivation, this can never happen in the Mass of Humours, where the Acrimony is not so disengaged and intense, that it can attack and mix itself with the Globules of Mercury, sheathed up in the pure Sulphur of the Tin: But, if such a Misfortune can happen any-where, it must be in the *Primæ Viæ*, which in most chronical Disorders, besides other Sordes, are also loaded with a large Quantity of acid Humours: And, since the Medicine is for a considerable time lodged in the *Primæ Viæ*, it may more easily assume a droffy Quality in them, than in the Mass of Blood. In order to prevent this these Sordes are, before the Use of the Medicine, to be, as effectually as possible, removed by mild and proper Cathartics of a gummous and resinous Nature, such as Galbanum, Ammoniac, Bdellium, and Mastich, rendered somewhat brisker by a proper Quantity of red Myrrh, and a small Quantity of the Extractum Aloeticum of *Ludovicus*; for these Substances, by their gummous and mucilaginous Parts, embrace the Acid of the *Primæ Viæ*, and so sheath up and obtund its Spicula, that it may be gently carried off without any violent Symptoms, which, in Cases of this Nature, are excited by more drastic resinous Substances. After the previous Use of such a Cathartic, repeated according to the Condition of the Patient, the Medicine is to be exhibited in Conjunction with temperate earthy Substances; which, as they more quickly absorb the Acid, than the Mercury corrected with the Sulphur of the Tin, so, by keeping it free from all foreign Acrimony, they render it capable of exerting its mild and gentle Efficacy: But if, by the Addition of the absorbent Powders, the Bulk of the Medicine, and much more its Continuation, should prove uneasy, in the Morning, and, if 'tis necessary, in the Evening, we may exhibit a Dose of the Diaphoretic Mercury alone, from six to ten Grains, but no more; and, when the Patient goes to Bed, let him take a sufficient Dose of the absorbent Powders, that is, from two Scruples to one Dram, in some proper aqueous Vehicle. But the mild and gentle Operation of this Medicine will be the more effectually promoted, and a Salivation entirely prevented; if, by a proper Regimen, the Body is kept duly warm, or, in proper Cases, a mild Sweat for some Hours is promoted by now-and-then exhibiting Sudorifics of a neutral Kind, such as the Spiritus Alexipharmacus *Bullii* Correctus, the succinated Liquor of Hartshorn, and the Bezoardic Tincture, without an Acid. These, when seasonably interposed between the Doses of the Mercury, for the most part, by one mild and gentle Sweat, remove the beginning Salivation, as is obvious from the Observations of many practical Physicians; much more might a Salivation, if it was to be produced by the Use of the *Mercurius Diaphoreticus Jovialis*, a Medicine sufficiently corrected, be prevented by this means. As this Medicine, therefore, when exhibited in the Manner now directed, is entirely divested of all drastic Qualities, so it may confidently be prescribed even in a scorbutic Intemperature, though of a pretty violent Kind, since it is much more safe than Preparations of crude Mercury, which, as also a Salivation, are not only innocent, but, also, salutary, in a Scurvy, if we may believe *Willis* and *Lentilius*, in the Passages already quoted; though, at the same time, I see no necessity for rashly imitating their Example: But

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But if, in Cases of this Nature, any one is afraid to use the diaphoretic Mercury, now mentioned, he may have recourse to another, though not so efficacious, yet no contemptible Mercurial Preparation, which we call *Æthiops Mineral*: And, indeed, this Medicine is so fortified against the Access of an Acid, that, like other Preparations of crude Mercury, it does not acquire an adventitious and austere Taste, with distilled Vinegar, or Spirit of Verdegrise, though their Acidity should be heightened by some Quantity of the Spirit of Vitriol: Besides, it is so mild, and so effectually divested of every drastic Quality, that Children afflicted with Worms are, without any Disadvantage, capable of bearing repeated, and sometimes large Doses of it. From ten to fifteen Grains of this Medicine may therefore safely be exhibited to a Person in the Flower of his Age; and, if in obstinate Diseases it should operate in too languid a Manner, the Efficacy of each Dose may be previously augmented, by adding to it a Grain or two of the Sulphur Antimonii Connerdingiani, or some other more diaphoretic Sulphur of Antimony, which is generally made without the Assistance of a precipitating Liquor. The Reguline Parts of this Preparation, intimately mixed and tempered with the Substance of the Sulphur, by a proper Stimulus, so augment the Efficacy of this Medicine, that a small Dose of it is capable of producing Effects, otherwise in vain expected from larger Quantities of it. Among the great Number of Mercurial Medicines, I reckon the three last-mentioned, not only the most properly corrected, but also the most efficacious, only with this Difference, that I give the Preference to the solar animated Mercury; but, when it cannot be had, I substitute, in its room, the Mercurius Diaphoreticus Jovialis: And to tender and delicate Patients I appropriate *Æthiops Mineral*, a Medicine, which, though easily prepared, is yet preferable to many far more laborious Compositions.

As the Brevity of our Design will not allow us to give a long Catalogue of the chronical Diseases, in which these Medicines are proper; or to specify when, to whom, in what Manner, and at what Time, they are to be exhibited, we shall only observe, that 'tis agreed upon by almost all Physicians, whether antient or modern, that the Fomes of most, if not of all chronical Disorders, consists in a Lentor, Mucidity, Spissitude, tenacious Viscidity, or whatever other Names different Authors have been pleased to give to the Immobility of the Humours: For as by the due Transpression, and equable Circulation of the Humours, through the solid Parts, the due Fluidity of the former is preserved, the Secretion of the recrementitious Parts, through proper Emunctories, promoted, and in a Word, the Vigour of the whole Body maintained; so, when this Circulation, the most simple, though the principal Instrument in preserving Life and Health, becomes languid, the Humours become concreted and inspissated, the saline, acid, and sulphureous Sordes, or whatever else of a recrementitious Nature is derived from our Aliments, cannot be sufficiently disengaged, much less thrown off by proper Emunctories, since the Impulse of the Humours to that is slow and languid; for which Reason they are frequently infarcted and obstructed. As, therefore, the defective and languid Motion of the Blood is the principal Cause of chronical Disorders, so the Faults of the Humours are best, and most naturally, corrected, by restoring the Circulation to its due and natural State. But since by a brisk and sudden Commotion no happy Effects are produced, and since a more constant and mild Motion is necessary, such as I have demonstrated may be produced by the Mercurial Remedies above-mentioned, 'tis sufficiently obvious, how efficacious these must be, even in the Beginnings of chronical Disorders, such as a Cachexy, for Instance, or a Scurvy proceeding from a cold Cause, and their Consequences, which are Accumulations of the Lymph, and painful Infarctions of various Parts, which tend to a Corruption. These Medicines are, also, highly efficacious in obstinate chronical Fevers, and arthritic Disorders, especially those of the cold Kind, or such as are accompanied with serous Tumors of the Part affected; in long-protracted Head-achs, and that Disorder called Clavus, from its being fixed in a particular Part of the Head; in various cutaneous Disorders, such as a Lues Venerea, violent Itches, Impetigos, the Elephantiasis, and the black Jaundice, when not arising from stony Concretions in the Gall-bladder, or biliary Ducts; in the various Species of Dropsies, and œdematous Tumors, especially when produced by long Obstructions of the Menstrues, or Suppressions of other usual Evacuations, and not accompanied with any considerable Disorder, or scirrhus Obstructions, of the Viscera; for as these can never be removed, a Cure can never be performed. But these Medicines are more efficacious, and produce their salutary Effects more quickly, in Disorders of the Brain, arising from the Accumulation and Stagnation of a peccant Lymph or Serum. These Mercurial Preparations are also singularly efficacious in lethargic Disorders of long standing, Epilepsies, and Palsies. They are, besides, proper for destroying Worms in Infants and Children, and removing those Obstructions, which are produced by the Milk and Pulses they use; but especially for opening the Obstructions of the Mesenteric Glands; and consequently remov-

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ing the Atrophies arising thence, which as they but little yield to other mild Medicines; and are often increased by vitriolated Tinctures of Mars, and other Medicines improperly called aperient, so they require Medicines, which by a constant, but gentle Impulse, act upon the infarcted Parts, without creating violent Commotions, which the tender Bodies of Infants are unable to bear. In such Cases, therefore, the Efficacy of these Mercurial Preparations is sufficiently obvious, from what has been said. But, notwithstanding the justly celebrated Efficacy of these Preparations, 'tis still necessary, they should be exhibited and prescribed by a skilful Physician, who has carefully investigated the Nature of the Disorder, knows the most proper Seasons of using them, and the Cases in which they will prove beneficial. It must, also, be considered, whether any Evacuation, together with an universal Correction of the peccant Matter, is necessary; and, if it should, we must attentively discover what particular Parts are most proper to have this Evacuation made by, that thus by a proper Regimen, and the due Interposition of Sudorifics, Diuretics, or Purgatives, this peccant Matter may be commodiously conveyed to these Parts. These, and some others, are the general Cautions to be observed in the Cure of chronical Disorders, and constitute the most important Part of Medicine. *F. Hoffman.*

DR. CHEYNE'S OPINION OF MERCURY.

Mercury, judiciously manag'd, seems to me to be the only true Panacea, and universal Antidote, sought by the wise, and boasted of by pyrotechnical Enthusiasts. Mercury seems pointed out and impressed by the Signature of the God of Nature, for the Cure, at least for the Relief, of intelligent Creatures, made miserable by hereditary Diseases, by natural Appetites irregularly indulged, by Ignorance, bad Example, and Frailty, in the human Kind, especially made so by high Food, and spirituous Liquors mostly. I will not run into the subtle and too refined Qualities of this only secondary and true sensible Fluid in all Nature, (which, though entertaining to Philosophers, would be of little Use in the Practice of Physic; our Senses and Sensations being so obtuse, as to be little hurt by Indivisibles or Minutenesses) but take those that are manifest and incontestable, which are, first, Its Gravity, which is, at least, fourteen times more than that of the other sensible Fluid in Nature, that is, Water: From whence flows its Momentum and Force, in opening a Way to itself in all animal Tubes, where the Resistance is less than its Force, or where the Aperture is naturally to be effected. Secondly, The Roundness of its component Particles, which, in all Probability, holds to its very last and least Particles; for to the least invisible Particle (when compress'd on a smooth polished Glass) it continues still globular; and the less the Particle is, the more perfect the Spheres, so that its very least Particles must, on that Account, be perfect Spherules, as is evident by fine Microscopes. Thirdly, The Smoothness and consequent Softness of these Particles on sensible animal Substances, they having no Points to tear animal Fibres and Tubes, and by their Globosity touching them in a Point only; and this is evident from its great reflective Virtue, every the least Globule being a perfect Speculum. Fourthly, Its readily answering, by this extreme Smallness of its Parts, the least Impulse; for, on the least Compressure between smooth polish'd Glasses, it readily flies into perfect Spherules, innumerable, and invisible even to the finest Glasses; so that the least Heat or Action puts it into Motion, as is evident from its Ascent in glass Tubes, or in an Alembic, not so readily, indeed, as Water or Air, (for that were supposing it to act contrary to the universal Law of Gravity) but by reason of this Smallness of its Particles, and its greater Degree of Attraction, more readily in proportion to its Density and Gravity, than any other Fluid. Fifthly, Its greater Degree of attractive Force, and Adhesion to some Bodies or Particles of Matter more than to others, as to Gold, and Salts of all Kinds; which probably may arise from the Smallness of their Pores, which can only receive and retain so small Particles as those of Mercury probably are. These are sensibly known and acknowledged Properties peculiar to Mercury, from whence all its great and salutary Effects on animal Bodies may be readily explain'd, and render'd intelligible, without running into Finesse and Subtilties; and these salutary Effects are, indeed, great and many.

The great Art required to make Mercury the most useful, salutary, and beneficial possibly, in the several Cases, is, first, to divide it into the smallest Particles possible, and then to unite it with some other Medium, which may keep these Particles separated, and at a Distance, from one another, so as not to be readily united again into larger Globules or Clusters; by which means it may be more easily introduced into the smallest Fibres, and capillary Tubes, by the Force and Course of the Circulation, to render them pervious, dissolve their obstructing Slime, and carry it out of the Habit by the common Sewer, (the Guts) or the Emunctory, urinary or perspirative Drains, which Qualities make the proper and peculiar Excellency of Mercury above all other Medicines. When it is given crude, and in Substance, or in its grosser Preparations, that is, without chymical Fire, beyond all Doubt (as we daily see by its sensible Effects, and some-

Sometimes by its visible Appearance in Substance on the Surface of the Skin) some of its smallest Parts, by their Mobility, attractive Force to one another, and ready Ascent, pass through the whole Body, not only in the Course of Circulation, but even through the Sides of the Tubes themselves, through the Membranes and Parenchymatous Substance; but then this Effect is not so soon, so readily, and effectually, produced in the crude Substance, as in some of its Preparations, where it is minutely divided, and its Particles kept separated, and at a Distance, from one another, to enter singly the small Tubes. Secondly, To endeavour to make the Medium of the Division, this Cover and Shell of the Particles, and the Matter they are united with, as salutary and conducive to the Intention of the Cure as possible; or to mix the Particles of the Mercury with some vegetable or mineral Substance, that has been found, by Experience, specific in the Distemper given. This will be more plain, in running through some of the most common Preparations of Mercury.

There is scarce a Body, or Kind of Matter, with which Quick-silver, with Labour and Art, may not be incorporated, or intimately mix'd. It may be united either with Salts by chymical Fires, as in Sublimate, Precipitate, Calomel, and the like; but as the Salts, when thus divided, have a strong Stimulus, are extremely active, and so necessarily produce very violent Pains and Evacuations of all Kinds *qua data Porta*, I think, they are extremely dangerous in delicate Constitutions, and tender Bowels; especially if they must be long continued, to alter the whole Mafs, and perform the Cure of a great and stubborn Distemper: All of this kind I call Mercurials *cum Stimulo*. Secondly, Or with Sulphur, Antimony, Sugar-candy, Turpentine, Crabs-eyes, and the like; especially such Bodies as are harmless, and not violently active Medicines, and are not so ready to run the Patient into great Evacuations, and consequently more proper for tender Bowels, and weak Constitutions, when design'd as Alteratives. Sulphur in Æthiops, indeed, will gripe and purge there; but this is readily prevented, by joining equal Quantities of Crabs-eyes, *Crocus Martis*, Astringents, or proper restaceous Powders, which by their absorbent Quality will make this an admirable, easy, and safe Medicine, I think, above all others, if long continued, as I have often found with great Pleasure. Native and factitious Cinnabar, also, is as safe and easy as Sugar, but must be long continued to produce any sensible Benefit, being weak, though, of all the Preparations, it is the most proper, and will, at last, have the safest and best Effect on very slender Habits, because tender Constitutions are more easily alter'd. The *Alcalifatus*, by the strong Friction required to unite the Mercury with the Crabs-eyes, divides it the most minutely; and, by the natural Porosity of the Crab's-eyes, there are prepar'd Cellules to separate and retain them asunder, whereby it would be the most safe, active Preparation hitherto, I think, found out, but that, like Calomel, from its infinite Division, and the Smallness of the Particles, it is apt to salivate, if given in any Quantity, without interspers'd Cathartics: But every Preparation of Mercury hitherto in Use will do the same, except Cinnabar, and, therefore, must be watch'd. But, I think, the most effectual way of administering Mercury to a given Distemper, is to unite and combine it, (by pounding, rubbing, or with Fire) with that specific Medicine, that has been found most effectual in that Disease: Thus, for Example, in the Scurvy, Gout, Erysipelas, and cutaneous Defecations, plain Quicksilver, Æthiops, or Alcalifatus, well rubbed into Gum Guaiacum, and joined to an Aloetic, will be found the most effectual Remedy: In Hysterics, these, joined to Gum-pills, with an Aloetic or Extract of the Bark, or of wild Valerian with Millepedes, these, I say, in such a Case, will do great Matters. In Obstructions of the Menfes, Æthiops with Steel does excellently: In Intermittent Mercury, with Bark and Steel, either in Substance, in an Electuary; or in Pills, as with the Extract of the Bark and Salt of Steel: In an Inflammation of the Eyes, Æthiops with Millepedes, and the Lenitive Electuary, or the *Electuarium Diacassie cum Manna*, joined with Milk of Sulphur; and the same in the Piles, or hæmorrhoidal Inflammations and Tumors: In the Erysipelas, and every other Inflammation, and in Disorders of the Stomach and Bowels, Æthiops, or Alcalifatus, with Rhubarb, in Pills, or in an Electuary: In a Rheumatism, Æthiops, or Alcalifatus, with Gum Guaiacum, in large Doses: In the Sciatica, Æthiops, or Alcalifatus, with boil'd Turpentine: In the Jaundice, Æthiops, or Alcalifatus, with Venice Soap, or the *Sapo Philosophorum*, and with Lime, or calcin'd Egg-shells: In an Anasarca, or even beginning Ascites, Æthiops, or Alcalifatus, with Resina Jalapii; and so in other chronical Distempers. All I intend here, is, that, supposing the Preparations of Mercury attenuate the Juices, and open Obstructions, the most readily and effectually of any thing known, that then another Medicine or Medicines may be joined to it, that is known or acknowledged to be most effectual in the Diseases given. I neither set down Forms, nor determine Concomitants: That must always be under the Direction of the Physician in ordinary, without whom no one in their Senses ought to venture on Mercury, either simple, or any-how prepared; for it is either

a divine Antidote, or may become dangerous by a wrong manner of using it, without due Regard to the Case, and the Patient, as well as the Form. But, judiciously and properly manag'd, ponderous Medicines, and Mercurial Preparations, are not only the sole universal Attenuants and Deobstruents, but, also, the most simple, natural, and efficacious Destroyers of Viscidity and Acidity, or whatever saline Cachexy. *Cheyne's Discases of Body and Mind*.

MERDASENGI. Litharge, according to *Fallopian*.

MERGEN. Coral. *Rulandus*.

MERGUS. Offic. Bellon. des Oyse. 180. *Merganser*. Aldrov. Ornith. 285. Jonf. de Avib. 97. Charlt. Exer. 101. Raii Ornith. 335. Ejusd. Synop. A. 134. *Mergus ferrati-rostrum*. Mer. Pin. 180. Will. Ornith. 253. THE GOOSANDER, or DUN-DIVER.

This is a Fowl well known upon the Sea-coasts. The Liver, of it, when stale, taken with Hydromel, in the Quantity of two *Ligula*, is said by *Dioscorides* to expel the Secundines. *Aetius* recommends the Liver roasted, and taken with Oil, and a little Salt, as an excellent Remedy against the Consequences of the Bite of a mad Dog. The entire Bird, roasted, is esteem'd good for a Leprosy, and Disorders of the Spleen. The Blood is alexipharmic, and good against venomous Bites; and the Eggs are said to be a Remedy for a Dyfentery, and Disorders of the Kidneys and Stomach.

MERICOS, *μερικος*. Topical.

MERITA TERRA. Turmeric. See CURCUMA.

MERLANGIUS, *sive Asellus marinus*. Ind. Med. 15. *Marlangus altera*, *Asellorum species*. Bellon. de Aquat. 124. *Merlangius*. Jonf. de Pisc. 1. *Merlanus secunda Asellorum species*. Rondel. de Pisc. 1. 276. *Asellus minor alter*. Aldrov. de Pisc. 287. *An Asellus mollis minor, sive Asellum omnium minimus?* Raii Ichth. 171. Ejusd. Synop. Pisc. 56.

Dale informs us, that certain small Bones, like the Dentalia, which are sold in the Shops, are taken out of the Heads of all the Species of Aselli; but that this Species affords the genuine Sort.

MERLUCIUS. See ASELLUS.

MEROPS. Offic. Aldrov. Ornith. 1. 871. Charlt. Exer. 94. Bellon. des Oyse. 267. Gefn. de Avib. 539. Jonf. de Avib. 81. *Merops, sive Apiafter*. Raii Ornith. 147. Ejusd. Synop. A. 49. Will. Ornith. 102. *Apiaster*. Bellon. des Oyse. 225. THE BEE-EATER.

It is frequently found in *Crete* and *Italy*. The entire Bird, and its Heart, are recommended in cardiac, icteric, and stomachic Disorders. The Gall, mixed with Honey, and the Juice of Rue, is said to cure Suffusions of the Eyes. *Dale*.

MERULA. The Black-bird. See COLLYRIUM.

MERULA. Offic. Salv. de Aquat. 223. Bellon. de Aquat. 260. Rondel. de Pisc. 1. 172. Charlt. de Pisc. 14. Gefn. de Aquat. 543. Aldrov. de Pisc. 32. *Merula Turneri*. Mer. Pin. 186. *Tardus niger*. Raii Ichth. 326. Ejusd. Synop. Pisc. 137. THE COOK-FISH.

It is found in the Ocean. *Trallian* recommends it in an hepatic Dyfentery from a cold Intemperature, and Epilepsy. *Pliny* relates, that it is good in Disorders of the Liver, and Fevers. *Dale*.

MESARÆON, *μεσαργιον*. The Mesentery. Hence the Arteries and Veins, dispersed therein, are called the Mesaraic Vessels.

MESEL, or MOSEL. Tin. *Rulandus*.

MESEMAR. The same as MISMAR.

MESENTERIUM. The Mesentery. From *μεσος*, Middle, and *εντερον*, an Intestine. See COELIA, and HECTICA. For an Account of the mesenteric Glands, see CHYLUS.

The Disorders incident to the Mesentery deserve our most attentive Consideration, since the superfluous Humours of the Veins are easily conveyed to it, and lay a Foundation for very terrible Disorders, such as a Cholera, Melancholy, Fluxes, Gripes, Cachexies, Atrophies, Languors, slow and erratic Fevers, together with other Diseases, whose Natures are not to be discover'd without great Difficulty. When the Mesentery is affected with a Tumor without Inflammation, the Tumor is generally, at first, lax and soft, but, some time after, becomes entirely dry and indurated. This Tumor, and the Part in which it resides, are insensible of Pain; for which Reason the internal Swelling, which lies pretty deep, is only to be discovered by a rough Touch.

In this Case, the Part affected is distended, lessens the Diameters of the Intestines, and, by that means, occasions Costiveness; which Effect is by no means produced by a Tumor of the abdominal Muscles, or prominent Fat; for neither of these affect the Intestines. The Fat, also, when laid hold of by the Hand, may be distinguished from the abdominal Muscles. But, when the Tumor is lodged in the abdominal Muscles, it is always discoverable by the first Touch, and is ever painful when pressed, and sometimes painful without any Compression. Besides, a Tumor of the abdominal Muscles is prominent when not pressed, perceptible upon the mildest Touch, and of an oblong Figure, like that of the *Musculus Rectus*. *Lomii Medic. Observat.*

Obstructions

Obstructions of the Mesentery proceed from the same Causes with those of the Liver and Spleen, but happen more frequently and easily, by reason of the Narrowness of the mesaraic, and, especially, of the lacteal Vessels, which convey the Chyle to the Organs allotted for the second Digestion. And when the Chyle, which is so often mixed with crude and gross Humours, as to stagnate, and produce Obstructions, in the lacteal Veins, the mesaraic Veins are, also, obstructed by gross Humours convey'd from the Liver, Spleen, and other Parts, and lodged there for a considerable time. During the Stay of these Humours, they become gradually thicker, so, as at last, sometimes, to produce a scirrhus Tumor. With these Humours are, also, sometimes, mixed gross Flatulencies, which generally prove the Causes of violent Symptoms. To the Obstruction, also, or rather the Contraction, of these Vessels, we refer the Compression of the Glands dispersed through the whole Substance of the Mesentery; for these, increasing beyond measure, as happens in strumous Persons, compress the mesaraic Veins, and hinder not only the due Distribution of the Chyle, but, also, the Circulation of the Blood.

The diagnostic Signs of Obstructions of the Mesentery are divided into three Classes, which either indicate the Species of the Disease, the Part affected, or the productive Cause.

The Signs which indicate the Species of the Disorder, that is, Obstructions of the Hypochondria, and their Causes, are the same with those producing Obstructions of the Liver and Spleen. But the Signs which in a peculiar manner indicate, that the Mesentery is affected, are Tension and Resistance in the Middle of the Abdomen, under the Stomach, and in the Umbilical Region, where there is, also, a Sense of Weight, sometimes an obscure Pain, and sometimes one of an highly acute kind, when Flatulencies are contained in these Parts: A Pain is, also, sometimes, perceived in the Back, to which the Mesentery is affixed; Rumbings and Noises happen in the Belly; Eructations are excited, and Vapours are raised to the Head, by which means various Symptoms are produced: In a Word, all the Symptoms which generally attend Melancholy, indicate Obstructions of the Mesentery, because that Disorder is produced and cherished by Obstructions of the same kind.

As for the Prognostics: This Disorder is not of itself very dangerous, because the Mesentery is capable of bearing great Disturbances, without any immediate Danger to Life. Besides, generous Remedies may be used for the Cure of this Disorder, which, when duly exhibited, generally produce the desired Effect, unless the Disorder causes hypochondriac Melancholy, which, on account of the obstinate Nature of the melancholic Humour, is generally called the Reproach of Physicians. But as the Mesentery is not furnished with an exquisite Sensation, and as the Obstructions of it are generally not very troublesome to the Patient, they are often neglected, and lay a Foundation for other highly dangerous Disorders.

The Cure of this Disorder is to be performed in the same manner with that used for removing Obstructions in the Liver. See *HEPAR. Riverius, Prax. Med. Lib. 13.*

The Mesentery is, also, sometimes inflamed, in which Case there is an internal Sense of Weight, without any manifest Pain. A slight Fever is, also, produced, which is attended with so mild a Train of Symptoms, that the Patient is capable of performing the ordinary Duties of Life. In the Beginning of the Disorder, a certain redish Sanies is discharged by Stool. But, when an Abscess is formed, a white Pus is evacuated, and most generally mixed with the Excrements. It is, also, sometimes discharged in great Quantities, pure and unmixed, especially when the Abscess is situated near the inferior Intestines. Now it is certain, that this Pus must be conveyed from the Mesentery, because it could not descend from other Parts, without either Pain, or a Mixture of other Matter, or a violent Fever. *Lomii Observat. Medic.*

As the Mesentery is, as it were, a kind of Drain, in which the more noble Parts deposit their Superfluities, which are afterwards discharged by Vomit or Stool, thus, in some Patients, we observe, at certain Intervals, a large Quantity of vitious Humours evacuated either by Vomit, or Stool. Now, if these Evacuations, in consequence of an Obstruction of the Passages, through which they were before discharged, or any other Cause, are hindered, these Humours, being retained and remaining long in the Part, conceive a preternatural Heat, which lays a Foundation for Putrefactions, Inflammations, Fevers of various kinds, and Abscesses. But an Inflammation is, in a particular manner, excited, when the Blood, accumulated in the mesaraic Veins, is discharged into the Substance of the Mesentery, by the Aperture of any of the venous Ramifications. But, since the Blood is greatly accumulated in these Veins by means of Obstructions, for this Reason the Causes of an Inflammation in the Mesentery may be referred to the common Causes of other Inflammations.

The Acrimony and corrosive Quality of the Humours, also, contribute a great deal to the Production of an Inflammation in the Mesentery; as, also, a Fall, or Blow, on the hypogastric Region; a Weakness of the attractive, concoctive, or retentive Faculty of the Liver; an excessive Heat of the Body; or an

unseasonable Use of Refrigerants; a critical Effort of Nature in malignant Fevers; or the Small-pox, conveying the peccant Humours to the Mesentery; and a Diarrhoea, or Dysentery, unseasonably suppressed.

The diagnostic Signs of an Inflammation in the Mesentery are a languid, latent, and slow Fever, without any Thirst or violent Symptoms, a Loss of Appetite, a Sense of Tension and Weight below the Stomach, without any considerable Degree of Hardness, and capable of being only known by pressing upon it. This Tension is, also, without any considerable Degree of Pain, because the Mesentery is only furnish'd with a kind of dull and obtuse Sensation. The Stools, also, are chylous, and generally succeeded by the Discharge of a thin Ichor, without any Sense of Pain, sometimes pure and unmixed, and sometimes mixed with the Faeces.

The Symptoms now enumerated are mild and gentle; if the Mesentery is only inflamed; but if the Liver, Spleen, or Intestines are, also, affected with an Inflammation, the Symptoms are more violent, and some particular Signs indicate the respective Disorders of these Parts: For since Inflammations and Abscesses of the Mesentery, when unattended with other Disorders, are highly latent on account of the dull Sensation of the Part, and as the Mesentery performs no Function in the Body, the Injury done to which can be discovered, but is only subservient to the Distribution of the Chyle and Blood, its Disorders are, for this Reason, rather to be guessed at, than certainly and infallibly discovered; when, for Instance, during the Presence of a Fever, and other Symptoms, no Signs of an affected Liver, Spleen, or Intestines, appear. When the Intestines are inflam'd together with the Mesentery, the Disorder is discovered by a remittent Fever, which *Spigelius* observed to be generally produced by an Inflammation of these Parts. This Disorder is, also, different from an Inflammation of the abdominal Muscles, because in these the Tumor and Pain run according to their Direction, Figure, and Situation. For the most part, also, the Tumors of the abdominal Muscles are oblong, or diffused over the whole Abdomen, and possess principally the exterior Parts, so that they are perceptible by the gentlest Touch, and generally accompanied with intense Pain and a violent Fever.

This Disorder is, also, to be carefully distinguished from Tumors of the Diaphragm, which have hitherto been adverted to by very few Physicians; for these are always accompanied with a considerable Difficulty of Breathing, a Revulsion of the Hypochondria, an hard and small Pulse, without any Sensation or Appearance of Tumor in the Hypochondria. Besides, if the Tumor proceeds from an hot Cause, an acute Fever, intense Pain, Deliriums, and Convulsions, ensue; which Symptoms never happen in Inflammations of the Mesentery, when not complicated with other Disorders.

As for the Prognostic of this Disorder, Inflammations of the Mesentery are highly dangerous, since, for the most part, they degenerate into Abscesses, or bring on a Putrefaction and Corruption of the Mesentery. The morbid Matter is, also, by the Efforts of Nature, frequently translated to other Parts, without being removed from the Habit: Hence the Disorder recurs, and often continues for many Years, or during the Patient's Life; in which Case, sometimes the Fever returns, and is sometimes changed into a Colic; the Inflammation also, or, at least, a preternatural Heat, returns. Inflammations of the Mesentery are to be cured in the same Manner with those of the Liver and Spleen. See the Articles *HEPAR* and *LIEN*.

Inflammations of the Mesentery frequently terminate in Abscesses, though, at the same time, every Abscess of this Part does not proceed from Inflammations, but, for the most part, from peccant and putrid Humours, accumulated in the Mesentery; so that Abscesses of this Kind are gradually produced without any previous Fever, or other violent Symptoms, just as in other Parts we observe Atheromata, Steatomata, Melicerides, and other Species of Abscesses, generated without any previous Inflammation; and when Abscesses of this Kind break, the Pus being evacuated, the Ulcers remain, and are not to be cured without great Difficulty. But if these Humours are highly pituitous, melancholic, or of such a Quality, as to resist Putrefaction and Corruption, they frequently become so concreted and indurated, as to degenerate into a Scirrhus. Sometimes they also acquire the Hardness of a Stone; for 'tis certain from the Observations of many practical Authors, that Stones have been found in the Mesentery.

The Diagnostic of Abscesses of the Mesentery is sometimes easy, and at other times highly difficult; for if an Abscess proceeds from an Inflammation of the Part, and if this Inflammation is previously discovered by the Signs before-mentioned, and continues for a considerable time, 'tis a Sign, that the Inflammation could not be dissolved, but is suppurated and transformed into an Abscess. But when an Abscess proceeds from peccant Humours, remaining long, and at last becoming putrid, in the Mesentery, the Diagnostic is so highly difficult, that many Authors, who have wrote the Histories of such Abscesses, inform us, they did not discover them, till they laid open the Patient's Bodes after Death; for though they may be generally discovered

by the Touch, yet they sometimes lie so deep as to frustrate this Method of Discovery; and the Sensation of the Part is so dull and languid, that the Abscess sometimes discovers itself by no internal Pain; but, because these Misfortunes happen in various Ways, they are to be distinguished in the following Manner.

If an Abscess of the Mesentery is accompanied with a conspicuous Tumor, it is to be distinguished, both from an Inflammation and a Scirrhus: It is distinguished from an Inflammation, if it does not draw its Origin from one, there is no Fever, or at least a very slight one present, no Fever preceded, nor any other Signs which could indicate an Inflammation: But, if an Abscess should succeed an Inflammation, it is only to be distinguished by its Duration and Continuance: For if the Symptoms of an Inflammation have continued for thirty or forty Days, or perhaps longer, 'tis a Sign, that the Inflammation has degenerated into an Abscess. An Abscess of the Mesentery is distinguished from a Scirrhus by this, that the latter is excessively hard, whereas, in the former, a certain Softness is perceived. Besides, a Scirrhus is entirely destitute of Pain, of which there are always some Degrees perceived, in an Abscess at least, when it is strongly compressed. Besides, Abscesses of the Mesentery are to be distinguished from Tumors of other Parts, by their Situation, as we have already observed concerning Inflammations of the Mesentery.

But, if an Abscess is formed in the Mesentery without any conspicuous Tumor, it cannot be certainly and infallibly discovered: We may, however, conjecture at such a Misfortune, if a Loathing of Food, a Nausea, and Vomiting, are present, without any manifest Disorder or Fault of the Stomach; if there is a kind of Satiety after taking even the smallest Quantity of Aliments, Lassitudes and Languors of the whole Body, without any manifest Cause, preternatural Costiveness, or an uncommon Solubility of Body; during which the Excrements discharged are highly fetid, and sometimes bloody, without any Suspicion of a Dysentery. To these Signs we may add, continual Watchings; and, if the Patient should at any time fall asleep, he is uneasy for the time, and falls into Deliquiums, accompanied with cold Sweats: And though sometimes neither Fever nor Pain are perceived, yet, for the most part, a kind of slow Fever is conspicuous, of which if no manifest Cause appears, we may conjecture that it depends upon this Misfortune, if some of the now-mentioned Signs accompany it. Besides, if the Abdomen is violently compressed, a certain internal Pain is perceived by the Patient. 'Tis true, in Parts entirely sound, Pains may be excited by violent Compression; but if a greater Pain is perceived in one Part of the Abdomen more than another, so that when all its Parts are separately handled, if, upon the Approach of the Hand, there is gradually a greater Pain felt upon the handling of some particular Part, we have just Ground to suspect, that an Abscess is lodged there.

But, if a purulent Matter is discharged, then the latent Abscess becomes manifest: For the most part, however, a Pus is evacuated, possessed of various Qualities and Conditions, according to the different Dispositions of the Part affected, or those contiguous to it. Hence a large Quantity of unmixed and whitish Pus is sometimes, without any Sense of Pain, discharged into the Intestines. Sometimes the Pus, when the Abscess is lodged near the Extremities of the large Intestines, is discharged, in Conjunction with the Faeces. 'Tis, also, sometimes conveyed to the Kidneys, and evacuated along with the Urine; sometimes, being copiously discharged, it either flows into the Cavity of the Abdomen, or appears externally under the Form of an Abscess, so that a large Quantity of Pus is sometimes discharged through the Navel; and sometimes Worms, generated by the Corruption of the Mesentery, are evacuated along with the Pus: And the Pus evacuated by Stool, which happens most frequently, is sometimes pure, as we have already observed; and at other times mixed with Blood or Sanies. Sometimes, also, a black and fetid Blood, or a blackish Matter of a different Nature, or a Substance of various Colours, is evacuated. But whether the purulent Matter is conveyed from the Mesentery, the Liver, or any other Part is only to be known by the Signs expressive of a Disorder in that particular Part.

When the Abscess is broken, and the Afflux of Pus continues, 'tis certain that an Ulcer is lodged in the Mesentery, which is sometimes soon cured, sometimes continues long, and at other times renders the whole Part putrefied and sphacelated.

As for the Prognostic of this Disorder, an Abscess of the Mesentery is highly dangerous; for if it continues long in the Part, which frequently happens, it acquires a malignant Putrefaction, and either induces a Gangrene of the Part, or throws the Patient into a Consumption, or a Dropsy. If, also, the Abscess breaks, and the Ulcer is not quickly cured, but acquires a bad State and Condition, a Gangrene, an Atrophy, or a Consumption, is induced. Sometimes, also, when the Abscess breaks, and an highly corrupted Pus is discharged into the Cavity of the Abdomen, the Patient dies suddenly. But a Scirrhus of the Mesentery is least dangerous, and, if recent, admits of a Cure; but, if it is very inveterate, brings on a Dropsy.

The Measures to be taken in the Cure of these Disorders ought to be varied according to their different Natures and Conditions. And, first, an Abscess already formed, indicates the Propriety of its Apertion and Evacuation; for which Purpose it is to be softened by means of aperient and purgative Medicines, of the same Kind with those proper for removing Obstructions of the Liver and Spleen; not omitting, at the same time, the external Use of emollient and relaxing Substances, Fomentations, Cataplasms, and Liniments, which attenuate the Matter of the Abscess, and relax the Passages, that thus the Pus may be the more commodiously evacuated.

When the Abscess is opened, the Ulcer is to be deterged and consolidated, by means of the same Remedies used in Ulcers of the Stomach, Liver, Kidneys, and Uterus, which may be varied at the Pleasure of the Physician, according to the different Habits of the Body, or the various Conditions of the Distemper.

A Scirrhus of the Mesentery is to be cured by the same Remedies to be used for the Cure of a Scirrhus of the Liver and Spleen. *River. Prax. Med. Lib. 13.* See HEPAR and LIEN.

MESERA. Alexandrian Tutty. *Rulandus.*

MESEREON. A Name for the *Thymelea*; *Lauri folio, deciduo*; *five Laureola fœmina.*

MESIANUM. The Name of a Plaister, the same as ANICETON; which see.

MESIRE. A Disorder of the Liver, mention'd by *Avicenna*, accompanied with a Sense of Heaviness, Tumor, Inflammation, pungent Pain, and Blackness of the Tongue.

MESOCOLON, *μεσώκωλον*, from *μέσος*, middle, and *κῶλον*, the Colon. See COELIA.

MESOGLOSSI. The Muscles of the Tongue, called *Genioglossi*.

MESOMERIA, *μεσομήρεια*. All that Part of the Body which lies betwixt the Thighs. *Ruffus Ephesius.*

MESOMPHALION. The Navel.

MESOPHRYON, *μεσόφρυον*. That Part of the Face which lies betwixt the Eye-brows. *Ruffus Ephesius.*

MESOPLEURIOS, *μεσοπλευρίος*. An Epithet of the Inter-costal Muscles.

MESOPOTAMENON. An Epithet for an Ointment described by *Paulus Aegineta*, *Lib. 7. Cap. 21.*

MESPILUS.

The Characters are;

The End of the Pedicle becomes an Ovary, whose Apex forms a quinquefid, stellated Calyx, with long, acute, expanded Segments; the Flower is rosaceous and pentapetalous, grows upon the Ovary, and has numerous Stamina arising from the Margin of the Calyx; the Ovary, which is furnished with five Tubes with gaping, bifid Apices, becomes a crown'd, carnos, soft, uncapfular Fruit, generally containing five Seeds.

Boerhaave mentions thirteen Species of this Plant; which are,

1. Mespilus; Germanica; folio Laurino, non serrato; five Mespilus sylvestris. *C. B. P. 453. Tourn. Inst. 641. Boerb. Ind. alt. 2. 256. Mespilus. Offic. Ger. 1265. Raii Synop. 3. 453. Mespilus sativa. Ger. Emac. 1453. Mespilus vulgaris. J. B. 1. 64. Raii Hist. 2. 1460. Park. Theat. 1422. THE MEDLAR-TREE.*

The Medlar-tree grows to be about as big as an Apple-tree; having several Thorns upon the younger Branches; the Leaves are long, and sharp-pointed. The Flowers are five leaved, white, about as big as Apple-blossoms, and are succeeded by round Fruit somewhat flat at Top, with a large open Umbilicus, including five hard Stones; it grows only in Gardens, and flowers in May. The Fruit is not ripe till towards November, being hard, and of a rough, austere Taste, and is the only Part used.

Medlars are cooling, drying, and binding, especially before they are ripe, and are useful in all kinds of Fluxes. The ripe Fruit, eaten too freely, is subject to tie up the Stomach, and cause the Colic. The Lapilli, or hard Seed, are accounted good for the Gravel and Stone: They are an Ingredient in the Syrupus Myrtinus. *Miller's Bot. Off.*

Dale says, the Fruit is cooling, drying, and of an austere Taste; that it is very astringent, and binding, and injurious to the Stomach; especially whilst hard. When soften'd, they are less astringent, not so injurious, and quickly rot, and then only they are eatable: They are used both externally, and internally, in Diarrheas and Dysenteries.

2. Mespilus; folio Laurino; major. *C. B. P. 453.*
3. Mespilus; folio Laurino; fructu dulci.
4. Mespilus; Apii folio laciniato. See ARONIA.
5. Mespilus; Apii folio laciniato; flore pleno.
6. Mespilus; Apii folio; sylvestris; spinosa; five Oxycantha. *C. B. P. 456. Raii Synop. 3. 453. Tourn. Inst. 642. Boerb. Ind. alt. 2. 256. Spina alba, Oxycantha. Offic. Spina appendix vulgaris. Park. Theat. 1025. Oxycanthus. Ger. 1146. Emac. 1327. Oxycanthus Galeni. Raii Phil. 2. 1458. Oxycantha vulgaris five Spinus albus. J. B. 1. 249. THE WHITE-THORN, or HAW-THORN.*

M E T

This is well known to be an Hedge-tree, or Bush, having many rough Branches, set alternately with sharp Thorns; the young Twigs are redish, cloathed with small Leaves, divided into three, and sometimes five Segments, coming forth over-against the Thorns. The Flowers grow in Clusters, consisting of five white Leaves, with redish Apices in the middle; of a pleasant Smell, and are succeeded by small round, umbilical Berries, of a fine red Colour, containing a pretty big Stone, divided into two, and covered with but a little Pulp. These Trees grow every-where in the Hedges, flowering in great Plenty in *May*, whence they are called *May* Bushes by the Vulgar. The Berries, or Haws, are ripe in *September*. The Flowers and Fruit are used.

They are accounted diuretic, and good for the Stone and Gravel, as, also, for the Pleurisy. Of the Flowers is made the Aqua Nephritica. *Miller's Bot. Off.*

By the chymical Analysis it yields, beside several acid Liquors, an urinous Spirit, no concentered volatile Salt, but a good deal of Oil and Earth: Thus it probably contains a Salt, like that of Coral, wrapped in a good deal of Sulphur, and mixed with a little Sal Ammoniac. *Tragus* affirms, that the distilled Water of the Flowers, or the Spirit drawn in distilling them with Wine, in which they have been macerated for three Days, gives great Relief in the Pleurisy and Colic. *Martyn's Tournefort.*

In general, it agrees with the Medlar in Virtues.

7. Mespilus; spinosa; five Oxyacantha; flore pleno. *T. 642. Oxyacantha, five Spina alba, flore pleno.* Munt. H. 186.

8. Mespilus; spinosa; Pyri folio. *Boerb. Ind. alt. 2. 257. Pyracantha. Offic. Park. Parad. 604. Raii Hist. 2. 1459. Pyracantha quibusdam. J. B. 1. 51. Oxyacantha Theophrasti. Ger. Emac. 1604. Oxyacantha five Spina acuta Pyri folio. C. B. P. 454. Mespilis aculeata Pyrifolia. Tourn. Inst. 642. EVER-GREEN THORN.*

It is cultivated in Gardens. The Part in Use is the Berry, which agrees in Virtues with that of White Thorn. *Dale.*

9. Mespilus; spinosa; five Oxyacantha Virginiana; nigra.

10. Mespilus; spinosa; five Oxyacantha Virginiana; maxima. *Oxyacantha; Americana, Calcar Galli dicta. Raii.*

11. Mespilus; sylvestris; spinosa; hirsuta; Apii folio palmato; fructu majore. *H. Cath.*

12. Mespilus; folio rotundiore; fructu nigro, subdulci. *Tourn. Inst. 642. Boerb. Ind. alt. 2. 257. Diospyros. Offic. J. B. 1. 75. Raii Hist. 2. 1461. Mespilus Alni effigie, lanato folio, minor. C. B. P. 452. Vaccinia alba. Ger. 1230. Emac. 1416. Vitis Idea tertia Clusii. Park. Theat. 1458. WHITE WHORTLES.*

It grows upon the *Alps*, and mountainous Places; and flowers in *May*. The Fruit is said to ease Coughs, and promote Expectoration.

13. Mespilus; folio subrotundo; fructu rubro. *T. 642. Cotoneaster, folio rotundo, non serrato. C. B. P. 452. Cotoneaster. J. B. 1. 73. Chamemespilus. Gesneri. Boerb. Ind. alt. Plant. Vol. 2. 257.*

MESPILUS is, also, a Name for several sorts of CRATÆGUS; which see.

MESQUITE. The Name of an *American* Tree, like an Oak, but bearing a Pod like the Kidney-bean. It is not used in Medicine; but the Seeds, called *Huitzase*, are employed in making Ink, like Galls, and fattening Cattle; and sometimes Bread is made of them, in a Dearth of Corn. *Lemery des Drogues.*

MESSALINÆ DENTIFRICIUM. A Dentrifice describ'd by *Scribonius Largus*.

MEST. Sour Milk. *Rulandus.*

MESUE. The Name of an *Arabian* Physician. See the PREFACE.

METABASIS, μεταβάσις, from μεταβαίνω, to pass, or migrate, from one Place to another. A Transition, for Example, from one Medicine to another; or a Change of one Remedy, or Method, for another.

METABOLE, μεταβολή, from μεταβάλλω, to change. A Change of any Kind.

METACARPIUS.

This is a small very fleshy Muscle, situated obliquely between the large internal Annular, or transverse Ligament of the Carpus, and the whole Inside of the fourth Metacarpal Bone.

It is fixed by a small short Tendon to the Os Orbiculare, and to the neighbouring Part of the large Ligament of the Carpus. From thence its Fibres run more or less obliquely, toward the Inside of the fourth Metacarpal Bone, in the outer Edge of which they are inserted. The Fibres of this Muscle are of unequal Lengths, and extend all the Way to the Articulation of the first Phalanx of the little Finger with the fourth Metacarpal Bone; but they have no manner of relation to that Finger.

The Metacarpus serves to turn the fourth Bone of the Metacarpus towards the Thumb, and, at the same time, to increase the Convexity of the Back of the Hand, which is called making *Diogenes's Cup*. The fourth Bone, thus moved, carries the third along with it, by reason of their Connection, which still augments the

M E T

Hollow on one Side, and the Convexity on the other. *Winn flow,*

METACARPUS, or METACARPION. The Part of the Hand betwixt the Carpus and the Fingers. See BRACHIUM.

METACERASMA, μετακέρασμα. The same as CERASMA, according to *Galen*.

METACHORESIS, μεταχώρισις, from μεταχωρίζω, to recede, or remove from one Place to another. A Secession of a morbid Humour from one Part to another, and, consequently, of the Distemper excited thereby.

METACINEMA, μετακίνημα, in *Hippocrates, Prædict. Lib. 2.* imports a Removal of the Pupil of the Eye from its proper Situation.

METACONDYLI, μετακόνδυλοι. The last Joints of the Fingers next the Nails.

METALLAGE, μεταλλαγή, from μεταλλάω, importing Transfiguration, and ἀλλάσσω, to change. The same as METABOLE.

METALLUM. A Metal. There are, properly, but six Metals, Gold, Silver, Copper, Tin, Iron, and Lead. But Philosophers have added a seventh, which is Mercury, though it agrees with Metals in nothing but Weight, and being found in the Bowels of the Earth.

Geoffroy defines a Metal to be an hard, shining, mineral Body, fusible by Fire, concretescible by Cold, ductile, and capable of amalgamating, or being intimately united to Quicksilver. Metals are divided into base or imperfect, and noble or perfect: Imperfect Metals are those which lose much by being exposed to Fire, such as Lead, Tin, Iron, Copper, and they are base or ignoble, as being not much esteemed. Perfect Metals are those which undergo all Trials by Fire, without any sensible Loss, such as Gold and Silver; and these are called noble, as being highly esteemed.

The Chymists have shewn, that Metals are nothing but bituminous Substances, which have undergone a long Digestion; for, by depriving them of their Sulphur, they are reduced to Ashes, and then to Glass. This is easily seen in the imperfect Metals: For if any of them be exposed to a long Heat, and especially to the Rays of the Sun, collected by a large Burning-glass, the sulphureous Principle flies off, and only a Calx, or Ashes, will be left behind, which, in a more vehement Degree of Fire, are presently vitrified; and, by restoring the Sulphur, this Glass may again be reduced to Metal.

TINCTURA METALLORUM.

Tincture of Metals.

This is a celebrated Remedy in *Holland, Germany*, and many Parts of the North; and is, by some, kept as a great Secret, tho' it was made public in 1687. in a Book printed at *Lejden*, intitled *Chymia Rationalis*.

This Tincture is made with Tin and Copper, to which some add Gold, and double its Quantity of martial Regulus of Antimony, melted together. There results from thence a metallic Mass, to which some Chymists have given the Name of *Electrum minerale*. They pulverize this Mass, and then, with Nitre, and Powder of Charcoal, reduce it by long Detonation to a kind of Scorize, whose Colour inclines to a pale Green: They pulverize it once more hot, and set it to digest in a certain Quantity of Spirit of Wine, or Spirit of Juniper, to which it gives a very beautiful Red. *Memoires de l'Acad. Royale des Scienc. An. 1700.*

It is intended for a Deobstruent.

METALLURGIA. Metallurgy, is that Part of Chymistry, which is concern'd in the Separation, Depuration, and Preparation of Metals. And sometimes it implies the digging them out the Mines.

METALLUS. *Helmont* uses this Word in the same Sense as METALLUM.

METAPEDIUM, μεταπείδιον. The same as METATARSUS.

METAPHRENON, μεταφρένον. The Back; properly the Part betwixt the Shoulders.

METAPOROPOEIA, or METAPOROPOIESIS, μεταποροποιία, or μεταποροποιήσις, from μετα, importing a Change, πορεύω, a Passage, and ποιέω, to make. An Induction of a Change in the Pores of the Body. See METASYNCRISIS.

METAPTOSIS, μεταπτώσις, from μεταπίπτω, to change either for the better, or the worse. A Change of one Distemper into another; either by *Diadoche*, or *Diadexis*, as it is call'd, when the Change is for the better, and the morbid Matter removes from a noble to a more ignoble Part; or by a *Metastasis*, when the Change is for the worse, and the morbid Matter removes from an ignoble to a more noble Part. *Cassellus.*

METASTASIS, μεταστάσις, from μετατίθημι, to transfer, signifies a Transposition and Settlement of some Humour, or Disease, on some other Part. Sometimes *Metastasis* means such an Alteration of a Disease, as is succeeded by a Solution, as in *Arb. 7. lib. 5.* where, it is said, τὰ ἐπιληπτικὰ ἐκείσινι πρὸ τῆς ἡβῆς γίνεσθαι μάλιστα ἀσιν ἔχει, &c. "Epileptic Disorders, whenever they happen before the Age of Puberty, suffer a *Metastasis*;" but,

“but, if they seize the Patient after the Age of Twenty-five, they generally accompany him to his Grave.” *Galen*, commenting on this Place, says, *κρίως*, &c. “Properly speaking, there is a *Metastasis* of a Disease, when it is translated from one Part to another; but improperly, and by an Abuse of the Word, a Solution is so called: And in this latter Sense I think it plain that *Hippocrates* uses the Term *Metastasis*; for the epileptic Fit is not only solved by a Translation of the Humours which excited it, to some other Part, but the Disease itself is perfectly cured.”

METASYNCRISIS, *μετασύγκρισις*, from *μετά*, a Preposition importing Change, and *συνκρίνω*, to collect, or mix together, in the Sense which *Theffalus* meant by it, is a Change which he pretended to effect in the whole Body, or only in some Part of it. *Galen* expresses the Word *Metasyncrasis* by *Metaporopaisis*, a Change in the Pores. For the clearer understanding the Force, and true Signification, of these two Words, we are to consider the Opinion of *Aesclepiades*, with relation to the Bodies of Animals, which, he fancy'd, were formed, as well as every thing else in the Universe, by the Concourse of Atoms; for which Reason he called all Bodies *συνκρίματα*, *Synkrimata* or *συνκρίσεις*, *Synkriseis*, Mixtures, because they were, according to him, an Effect of a Collection and Mixture of Atoms. The same Author, the better to explain what happen'd to Bodies, made use, also, of the Verbs *συνκρίνεσθαι* (*synkrinesthai*) and *διακρίνεσθαι* (*diakrinesthai*) to mix, and to separate; the first of which Words imported the Union of those Atoms for the Formation of a Body, and the other their Dissolution; there wanted a third Term to express the Alteration, which is made, when these same Bodies, after being disunited, returned to their first State; and that Word was *μετασυνκρίνεσθαι*, (*metasyncrinesthai*). *Caelius Aurelianus*, who was himself a Methodic, renders this Word by *recorporare*, and *μετασύγκρισις*, which was formed of it, by *recorporatio*. I know not indeed whether *Aesclepiades*, who used the Words *συνκρίνεσθαι* and *διακρίνεσθαι*, made use also of *μετασυνκρίνεσθαι*, but *Cassius*, who was one of his Disciples, used that Word: Whence it appears, at least, that *Theffalus*, who lived a long time after *Cassius*, was not the Inventor of it: But however that be, *Galen de S. F. Lib. 5. Cap. 25.* observes, with good Reason, that *Theffalus* did not keep himself within the Bounds of the *Method*, when he made use of this Word, since it was impossible to understand what was meant by this Term, without first supposing, as a thing known, the Existence of these small Bodies, and their meeting together. Now this extended farther than what the Methodics professed to know; for they would allow of no Penetration into Causes, which were less remote and occult, than those Principles of *Aesclepiades*.

The celebrated *Cyclus Metasyncriticus* of the Methodics, then, is a long-protracted Course of Remedies, persisted in with a View of recorporating, or restoring the Particles which compose the Body to such a State as is necessary to Health.

METATARSUS

This is a fleshy Mass, lying under the Sole of the Foot. It is fix'd by one End, in the fore Part of the great Tuberosity of the O. Calcis; and, running forward from thence, it terminates in a kind of short Tendon, which is fixed in the Tuberosity, and posterior Part of the lower Side of the fifth Bone of the Metatarsus.

The *Metatarsus* moves the last Bone of the *Metatarsus*, much in the same manner as the *Metacarpus* does that of the *Metacarpus*. By this Action it draws, also, the fourth Bone along with it, and contracts the Sole of the Foot, increasing the Convexity of the upper Side; provided that the Foot is not become inflexible by long wearing strait Shoes, by old Age, or by any other Constraint or Indisposition. *Winslow*.

METATARSUS, from *μετά*, and after *τάρσος*, the *Tarsus*. The Assemblage of small Bones, articulated to the *Tarsus* at one End, and to the Toes at the other.

METATHESIS. A Transposition, or Change of Place, us'd with respect to morbid Causes, which, when they cannot be evacuated, are remov'd to Places where they are less injurious. Thus a *Metathesis* of a Cataract is a Depression thereof, so that it may no longer intercept the Rays of Light.

METAXA, *μεταξα*. Silk.

METEL. A sort of *Nux Vomica*, but somewhat larger. *Raii Hist. Plant*

METEOROS, *μετέωρος*, from *μετά*, and *αίρω*, to elevate; elevated, suspended, sublime, erect, tumid. Thus *μετέωρα αλγύματα* are expounded by *Galen, Com. ad Aph. 7. lib. 6* sublime Pains, those which are above the Peritonæum, or affect the superficial and external Parts of the Body; these Pains are opposed to such as are deeply seated, and called *τά μὴ μετέωρα*, not sublime, but deep, and seated within the Peritonæum. And *τά ὑποχόνδρια μετέωρα*, *Aph. 67. lib. 5.* are expounded in *Galen* by *τά ἐντερωνμία, φουδὸν ἢ τήλαινα* (*Hypochondria*) tumefy'd and distended with Flatulences. Sometimes they are expressed by *τά ἐννεμία*, elevated, tumid, and inflamed, 1 *Epid. Aeg. 8.* Hence *μετέωρος* signifies an highly elevated Tumor, and *μετέωρίζεσθαι*, 5 *Epid.* and *Coac.* is used in the same Sense. But

μετέωρισμοί, in *Progn.* and *Coac.* 494. signifies the Patient's raising himself in order to sit up, which if he does in a light and easy manner, it is there said to be a good Sign. Again, *μετέωρα πνεύματα καὶ χυμώματα*, *Lib. de R. V. I. A.* are the Spirits and Humours in a State of Elevation and Suspense, no way determin'd in their Course, but disposed to a Flux or Evacuation. In another Sense *μετέωρον πνεῦμα* is a sublime and erect Respiration, which is performed with raising the whole Body, and elevating the Thorax. Again, *Lib. de salub. Dieta*, we are directed in the Summer *τὰ μετέωρα καὶ κάτω ὑπάγειν*, to evacuate the Humours which are then in a State of Elevation, or Æstuation, and Fermentation, by Purging; this Elevation of the Humours seems to be what the Chymists call *Exaltation*. And to the same Purpose, *Lib. de prisca Medicina*, we read, *ὅσον δ' αὖ χυμὸν ταῦτα μετέωρα ἢ καὶ ἀπεπτα, καὶ ἀκρίνα*, “So long as these [the Humours] are elevated, and unconcocted, and untempered, neither the Pain, nor the Fever, can by any Art be subdu'd”; nor can this be effected, as he says a little after, *πρὶν ἀποκαθαρθῆναι τε, καὶ καλαιορεσθῆναι, καὶ μίχθῃ τοῖσιν ἄλλοις*, “before they are evacuated, depressed, and mixed with others.”

METHEMERINOS, *μεθήμερινός*. An Epithet of a Quotidian Fever.

METHODICA SECTA. The Methodic Sect. See the PREFACE.

METHONICA. The Superb Lily, *vulgo*.

The Characters are;

The Root is carnos, and of the Figure of a rectangular Rule, or Carpenter's Square, and very poisonous. The Stalks are scandent; the Leaves are alternate, Lily-shaped, and running out at the Apex into a Tendril. The Flower is naked and hexapetalous, the Petals being elegantly sinuated, and reflected quite backwards; it is furnished with six Stamina, and bears in its Centre the Ovary, which becomes an oval Fruit, tricapular, and containing little roundish Seeds.

Boerhaave mentions but one Sort of this Plant; which is,

Methonica, *Malabarorum. H. L. 688. Methonica. Ac. R. Sc. 1706. T. 7. F. 5. Nienghala Zeylonensium. Musæi Zeyl. Lilium Zeylanicum superbum. Vulgo & H. A. 1. 69. Plukn. 116. 3. Mendoni. Raiz. d'Empose Lusitan. Boerb. Ind. alt. Plant. Vol. 2. p. 134.*

It is planted in Pots, and cultivated for its Beauty; but I find no medicinal Virtues ascribed to it.

METL. A Name of several Species of *American Aloes. Raii Hist. Plant.*

METOPION, *μετώπιον*. The Name of an Ointment describ'd by *Dioscorides, L. 1. C. 71*. Thus nam'd because the Plant which produces *Galbanum*, a principal Ingredient in this Unguent, was call'd, in *Egypt*, *Metopion*.

METOPON, *μέτωπον*. The Forehead.

METRA, *μήτρα*. The Uterus, or Womb.

METRENTYTA, *μετρέγγυτα*, from *μήτρα*, the Uterus, and *ἐγγύω*, to infuse, or pour into. Injections for the Uterus.

METRENTYTES, *μετρέγγυτης*, of the same Derivation as the preceding Word. A Womb Spring.

METRETES, *μετρέτης*. An Attic Measure, containing somewhat more than nine Gallons. See *MENSURA*.

METROCELIDES, from *μήτηρ*, a Mother, and *κέλερ*, a Spot, or Mole. A Mole, or Mark, impress'd upon the Child, by the Mother's Imagination. *Castellus* from *Theophilus Bierlingius*.

METROPROPTOSIS, *μετροπρωπτωσις*, from *μήτρα*, the Uterus, and *πρωπτω*, to fall down. A Descent of the Uterus, or *Prolapsus Uteri*. In the old College Dispensatory, there is a Plaster directed by the Title of *Emplastrum μετροπρωπτωτικόν*.

MEVIUM. A Name for the Venereal Disease. *Fallopianus*.

MEUM.

The Characters are;

The Root is perennial; the Leaves are capillaceous, and much slenderer than those of Fennel. The Seeds are long, and bigger and broader than Fennel-Seeds.

Boerhaave mentions but one Sort of this Plant; which is,

Meum. Ger. 895. Emac. 1052. Raii Hist. 1. 432. Synop. 3. 207. Boerb. Ind. A. 49. Meum & Meum Athamanticum. Offic. Meum vulgatum. Park. Theat. 888. Meum foliis Anethi. C. B. P. 148. Tourn. Inst. 312. Meum vulgare seu Radix Urfina. J. B. 3. 2. SPIGNEL.

The Root of Spignel is about a Finger thick at the Head, which is covered with stiff Hairs or Bristles; it runs deep into the Earth, and is divided into several Branches, of a very strong aromatic Smell. The Leaves are not very large, but divided into several very fine Segments; the smallest and slenderest of any Plant we have, of a dull, dark, green Colour. The Stalk grows to be a Foot or more high, not much branched, with a few smaller Leaves growing thereon, bearing on the Top Umbels of small, white, five-leav'd Flowers. The Seed is longer and larger than Fennel, two growing together, which are striated on the Back; it grows in some Parts of the North of England, and flowers in June. The Root is the only Part used

It is hot and dry, carminative, and expelling Wind; and helps the Colic and Gripes. It is, also, alexipharmic, and good against pestilential Distempers, being an Ingredient in the Theriaca and Mithridate. It is of Use likewise against the Stone, and Stoppage of Urine, and good in all uterine Disorders. *Miller's Bot. Off.*

It discusses Flatulencies, and is principally used for Inflation, and Eructations of the Stomach, for provoking Urine and the Menfes, for Catarrhs, and for expectorating the Tartar of the Lungs: Hence it is an Ingredient in many Compositions.

The Root, as well as that of Mint, is furnished with an excrementitious sort of Humidity, which flies to the Head, and there excites the Head-ach; for which Reason it ought not to be too frequently used, especially by those who have made a Vow of Chastity, or abstain from Venery on some other Account; for, by the same Influence it affects the Head, it excites Venereal Desires. *C. Hoffman*. This perhaps is the Reason, why in *Westmorland*, where it grows very plentifully in the Meadows and Pastures, it is called *Bawd-money*.

It has the Name *Meum* from the Greek μέιον, *mion*, less, because of the extreme Slenderness of its Leaves.

The Seed, Leaves, and Root, are used. The Seed has the same Virtue, as that of Fennel; but is more balsamic, and recommended in an Asthma, where there is an Adhesion of slimy and viscid Matter, provided there be no Inflammation. They say, that no Plant is a greater Provocative to Lust than *Meum*. Chewed in the Mouth fasting in the Morning, it corrects a ferid Breath, strengthens the Gums, and rectifies the Disorders of the Stomach. *Hist. Plant. ascript. Boerhaave*.

Besides the foregoing Species of *Meum*, *Dale* mentions the following:

MUTELLINA. Offic. *Mutellina*, *Meum umbellâ purpurascens*. Mont. Ind. 48. *Mutellina*. J. B. 3. 66. Raii Hist. 1. 453. *Meum Alpinum Germanicum*, illis *Mutellina dictum*. Park. Theat. 889. *Pellandrium Alpinum, umbellâ purpurascens*. Tourn. Inst. 307. GERMAN or MOUNTAIN SPIGNET.

It grows on hilly Places, and the Herb is in Use, to which *Monti* attributes the same Virtues as to the common *Meum*.

MEUM SPURIUM. A Name for the *Seseli*; *perenne*; *folia glauco breviori*.

MEZEREON. A Name for the *Thymelæa*; *Lauri folio*; *deciduo*; *flore purpureo*; *sive Laureola femina*.

MIASMA, μίασμα. Contagion.

MIGAMBE. The Name of a Plant, which grows at *Angola* in *Africa*, and at *Brasil*; to which I find no medicinal Virtues ascrib'd.

MICHA, or MICHACH. Copper. *Rulandus*.

MICHAELIS ANGELI ANTIDOTUS. The Antidote of *Michael* the Archangel. The Name of an Antidote describ'd by *N. Myrepsus*, *Cap. 294, 295*.

MICLETA ANTIDOTUS. An Antidote prescribed by *N. Myrepsus*, *Señ. 1. Cap. 200*.

MICROCOSMETOR. An imaginary Being, represented by *Dolens*, as residing in the Brain, and governing the Animal Faculties.

MICROCOSMOS, μικρόκοσμος, from μικρός, little, and κόσμος, the World. The Microcosm, or Little World; that is, Man, who is so called by way of Eminence, as being an Epitome of all that is wonderful in the Great World, or Macrocosm.

MICROLEUCONYMPHÆA.

The Characters are;

The Calyx is bifoliate; the Flower tripetalous, and adorn'd with nine Stamina; the Ovary is tricapular, furnished with three Tubes; the Capules are sometimes divided into two; the other Parts are less than those of the Nymphæa.

Boerhaave mentions but one Sort of this Plant; which is,

Microleuconymphæa; quæ Nymphæa; alba minima. *C. B. P.* 193. *Raii Hist.* 2. 1320. *Boerb. Ind. A.* 282. *Morsus Ranæ*. Offic. *Ger. Emac.* 818. *Nymphæa alba minima, sive Morsus Ranæ*. Park. Theat. 1253. *Nymphæa minor, sive Morsus Ranæ*. J. B. 3. 773. *Stratiotes foliis Asari, semine rotundo*. Raii Synop. 3. 290. FROG-BIT.

It grows in muddy and slow Waters, and flowers in July. The Herb is used, and agrees in Virtues with the *Leuconymphæa*.

MICRONYMPHÆA.

The Characters are;

It is less than the Nymphæa in all its Parts; the Calyx and Flower are pentapetalous.

Boerhaave mentions one Species of this Plant; which is,

Micronymphæa; quæ Nymphæa; lutea; minor; parvo flore. *C. B. P.* 194. *Nymphæa minor, lutea*. J. B. 3. 773. *Nymphæa, lutea, minor, septentrionalium*. Lob. Ic. 595. *Boerb. Ind. alt. Plant. Vol. 1. p.* 282.

It grows in Ditches, and agrees in Virtues with the Nymphæa. *Boerhaave*.

MICROSPHYCTOS, μικρόσφυκτος. A Person whose Pulse is very small.

MICTIO, or MICTUS. An Excretion of Urine.

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MIDYON. A Species of Oak, mentioned by *Thophrastus*. In *N. Myrepsus*, *Señ. 1. Cap. 156*. Midyon is mentioned as an Ingredient in an Antidote there described; but *Fuchsius*, his Interpreter, thinks it a Mistake for Misy.

MIENCAPHETITES. The Name of an Antidote, describ'd by *N. Myrepsus*, *Señ. 1. Cap. 393*.

MIFRES. Asphaltum. *Rulandus*.

MIGRANA. The same as HEMICRANIA.

MILAX. The same as SMILAX.

MILESIUS. An Epithet for the finest Wool.

MILIARIS FEBRIS. The Miliary Fever.

The Miliary Fever is so called from the Pustules, or Vesicles, which principally appear on the superior Parts of the Body, and in some measure resemble Millet-seeds. But, in my Opinion, this Disorder ought rather to be called the *Vesicular Fever*, because the Pustules are Vesicles, at first, full of a limpid, and, afterwards, of a whitish and almost Pearl-coloured Serum.

Though some are of Opinion, that only pestilential and petechial Fevers ought to be classed among those of the malignant Kind; yet, I think, some others, of a quite different Species, justly deserve to be so.

Among this Number we reckon all such Fevers as are communicated either by Contact, Exhalations, or any other Method of Contagion; as, also, those Fevers which are, from the Beginning, accompanied with a violent and fixed Pain in any particular Part of the Body, such as the Head, the Intestines, the Region of the Kidneys, or the Joints. To this Class, also, belong those Fevers, in which the Patient is afflicted either with a Colic, a Gravel, a Gout, a Rheumatism, or Child-birth Pains, as original Diseases, when, at the same time, the Symptoms of such a Miliary Fever do not yield to those Remedies, which generally prove efficacious in removing those Disorders, when of the primary Kind.

Among the malignant Fevers, we may, also, reckon those in which the animal Spirits suddenly fail, and are oppressed; as, also, those in which the above-mentioned Symptoms seem to depend upon no evident Cause, but upon a kind of latent Poison, by the Antients called an *Occult Quality*, and by the Moderns, Vapours.

To this Class, also, belong those Fevers, in which, from a Cause similar to that last-mentioned, the Hopes of Recovery are succeeded by a sudden Death. Now, as all these Symptoms discover a proportionable Degree of Malignity, so I have observed them happen in a Miliary Fever, which, in the *Indies*, rages with a Degree of Malignity equal to that of the petechial Kind.

A Miliary Fever is of two Kinds, simple and compound. The simple is when none but miliary Pustules appear; the compound Kind is when, with the miliary Pustules, there are, interspersed, red papillary Pustules, which, when appearing alone, are called a *Rash*.

It is, also to be observed, that the miliary Pustules are sometimes mixed with those of the Small-pox; and that the former are gradually dried up, in proportion as the latter become tumid; whereas the miliary Pustules remain after those of the papillary Kind are dried up.

That I may, with the greater Distinctness and Perspicuity, give the History of the Miliary Fever, I shall enumerate its antecedent, concomitant, and subsequent Signs.

This Disorder, then, is preceded by a weakly Constitution of Body, whether natural, or brought on by excessive Evacuations, or the Use of too small a Quantity of Aliments; a serous State of the Blood; a weak and tumid Mind, easily ruffled and decomposed by external Impressions, as in Women, and effeminate Men; close and intense Thinking, or a gloomy Sadness; an Obstruction, or Ulcer, accompanied with Pain in some particular Part of the Body: For this Reason those who have been long afflicted with the Colic, Gout, Stone, or Ulcer of the Kidneys, are more subject to the Miliary Fever than others. In Women this Disorder is preceded by an internal Heat, either with or without a Thirst, especially about the time of their Labour. In consequence of this Circumstance, their Pains are less violent than usual; their Spirits, also, are sunk, without any evident Cause; and their Breasts so oppressed, as to lay a Foundation for the deepest Sighs; and, as in other Fevers, they are almost always cold externally.

A Miliary Fever is frequently accompanied with a Pain resembling that of a Woman in Labour, a Colic, a Gravel, a Pleurisy, or a Rheumatism. The Breast is also oppressed, and the Spirits sunk. But, after two or three Days, the above-mentioned Pain being removed, an Horror, and then an alternate Cold and Heat of the whole Body, are produced; but this Heat is gentler and more natural, than that which accompanies an ordinary continual Fever; the Palm of the Hand is intensely hot, but the Heat of its convex Part is somewhat more mild; the Pulse is frequent, but weak; the Spirits are often greatly sunk; and the Breast, as it were, oppressed by an huge Weight, fetches deep Sighs; and, which is, of all others, the most inseparable Concomitant of this Disorder, Sleep, upon its first Approach

proach, is suddenly interrupted; for the Patient often remains for some Days and Nights, and generally longer than in any other Fever, without Sleep; whilst, at the same time, he is neither seized with a Delirium, nor a Pain of the Head: A remarkable Instance of which, says the celebrated Sir David Hamilton, I myself saw, in a certain Woman of Distinction, under the Care of Dr. Francis Bernard, and who, during the Course of this Fever, was afflicted with Watchings, for a whole Month, without any Delirium, or Pain of the Head. The Tongue is sometimes covered with a white Crust, and at other times resembles that of a sound and healthy Person. The Urine is sometimes pale, like common Water; and at other times retains its natural Colour: And young Physicians, being frequently misled by this Symptom, imagine the Disorder to be what they call *Vapours*. Those who labour under a miliary Fever, are sometimes afflicted with a Pain of the Stomach, especially after Sleep. Sometimes, also, they are seized with a Diarrhoea, either through their own Negligence, or in consequence of the preposterous Practice of the Physician; whilst, for Instance, heating Medicines, usual in hystERIC Paroxysms, are prescribed without Diaphoretics. Hence, instead of the regular and benign Workings of Nature, which would expel the morbid Matter by a Diaphoresis, a violent and rapid Fermentation throws it upon the Intestines. The Patient is sometimes costive, whilst at other times he is afflicted with a preternatural Solubility of Body, accompanied with a Pain of the Stomach and Intestines. Sometimes the Tongue, and Hands, when held out for the Physician's Information, tremble; and the Patient speaks, as it were, with a tremulous Voice. Those who are afflicted with a Miliary Fever, are, also, frequently seized with Convulsions, Deliriums, and a Difficulty of Breathing. The Exacerbations of these Symptoms recur like the Paroxysms of an intermitting Fever. An Oppression of the Breast productive of Sighs, an uncommon Sinking of the Spirits without any evident Cause, Watchings, and that tumultuous Agitation of the Spirits commonly called a *Hurry of the Head*, when the Patient composes himself for Rest, as, also, a frequent and weak Pulse, accompanied with whatever other Symptoms, are always Signs, that the miliary Pustules are about to make their Eruption; and all these Symptoms continue, till the Pustules become prominent, after which the Patient is freed from most of them.

These Pustules are, for the most part, only conspicuous on the Breast, Neck, and Interstices of the Fingers; though they are, also, sometimes found over all the Body, and, being daily and gradually increased, they at last disappear, the Cuticula, in the mean time, remaining rough in those Parts where they were. Sometimes these Pustules itch, especially in the compound Miliary Fever, where the Pustules are intermixed with those of the red papillary Kind. It is, also, to be observed, that the simpler this Species of Fever is, the more mild its Symptoms always are; a Circumstance which not only renders the Patient, but, also, the more incautious Sort of Physicians, careless and inadvertent. By this means the Fever is either rendered more dangerous, or another Disorder produced, since, for the Want of that Care and Caution, which are necessary at first, this Fever sometimes begins with a Train of violent Symptoms, such as Pain of the Stomach, Loss of Appetite, internal Heat, Oppression of the Breast, a Sinking of the Spirit attended with Sighs, an irregular Return of Heat and Cold, Watchings, and other Disorders of a like Nature.

In the Decline of this Disorder, the superior Parts of the Hands are often moist, with a cold Sweat.

Whether the miliary Pustules appear on a certain fixed and stated Day, is a Circumstance not easily determined, since the first Appearance of this Disorder is highly uncertain, and the Accounts given of it, by the Patient, not to be depended upon. But so far as I have been able to discover, they generally begin to make their Eruption on the tenth or eleventh Day from the Beginning of the Disorder, when its Progress is regular: But they begin to be dried up about the eighteenth Day, or, where the Quantity of the morbid Matter is large, about the twenty-first or twenty-second Day.

I first endeavoured to discover the Time of their Eruption in those Women, whom, three Days after their Labour, I heard complaining of an Horror, or Cold, succeeded by a preternatural and uncommon Heat; for, when I saw the Pustules on their Breasts and Necks, I concluded that they had, for a considerable Number of Days, laboured under a Miliary Fever; and, strictly examining into what happened from the Beginning of the Disease, I found that, before their Delivery, they had been afflicted, either with a preternatural Heat, or a Pain of some particular Part, accompanied with a violent Oppression of the Breast, Sighs, and a Sinking of the Spirits; and, as they imagined these Symptoms depended upon their approaching Labour, they thought they would be removed when it was over: And though their Pains are milder than usual, yet they are succeeded by an Oppression of the Breast, accompanied with Sighs, a Sinking of the Spirits, by Midwives called Fear and Vapours, together with a frequent and weak Pulse; all which generally prognosticate the Eruption of the miliary Pustules, which, in Child-bed Women,

is promoted by Sweating in Bed. From the first internal Heat, therefore, or Pain before Labour, till the Eruption of the Pustules after Labour, there are generally eleven Days: But the Patient's Ignorance of her own State, and the indistinct Account of it she gives to the Physician, generally so disconcert him in forming his Prognostic, that the most curious and accurate Professor of the Art can hardly venture to ascertain the precise Day of the Eruption.

The Consequences of a Miliary Fever, so far as I have been able to observe, are a Swelling of the Thighs, Legs, and Feet, not always unaccompanied with Pain; a Tumor and Abscess of the Breasts; a Depravation of the Memory; an immoderate Discharge of the Lochia and Urine; a kind of Indisposition resembling the hypochondriac or hystERIC Disorder; and an internal Heat, accompanied with Weakness, Languor, and a Loss of Appetite. Sometimes one, sometimes another, of these Misfortunes happen, when the Fever, either in consequence of its own malignant Nature, or the bad Management of the Physician, terminates in an unlucky manner.

As for the internal Causes of a Miliary Fever, this Disorder seems to depend partly on an excessive Serosity, and a kind of acid Acrimony in the Blood, and partly on a preternatural Commotion of the nervous Fluid. This Conjecture seems probable, not only from the preceding History of the Disease, and the Remedies calculated for its Removal, but, also, from the Dissection of the Bodies of those who have fallen Sacrifices to it.

The Acrimony and Acidity of the Blood may be discovered by the Secretions made in this Species of Fever; for the Urine is paler, liker that of an healthy Person, and discharged in larger Quantities; than in a burning Fever, in which the Blood, and nervous Fluid, are impregnated with saline-sulphureous Particles. We find, in like manner, that, in the Beginning of a Dropsy, a copious Discharge of pale Urine is excited by the Use of Oxy-mel of Squills. In a Miliary Fever there is, also, a more copious Discharge of the Saliva, than in one of the burning Kind: In the former the Thirst is generally less, and the Tongue covered with a less viscid Humour, than in the latter. Besides, the Matter of the miliary Pustules, which are Vesicles full of Serum, seems to be secreted by the above-mentioned Acid, just as the Serum of Milk is by the Affusion of any Acid.

The Truth of, this Theory is, also, evinced by the Qualities of the Medicines calculated for the Removal of this Disorder; which are those of the testaceous kind, such as Crabs-eyes, and other Substances capable of absorbing Acids.

The same Thing is, also, confirmed by the Substances which prove injurious in this Disorder; for Lemon-juice, and all other Substances of an acid Taste, are hurtful in a Miliary Fever.

The serous State of the Blood is proved by the Heat, which, in this Disorder, is milder than in a burning Fever; and the more simple the Miliary Fever is, the smaller is the Degree of Heat, with which it is accompanied; for when those red Pustules, which we commonly call a Rash, are interspersed with these of the Miliary Kind, all the Symptoms render the Disorder more like a burning than a Miliary Fever; and tho' those who labour under an Anasarca, in which the Blood abounds with Serum, are sometimes seized with a Miliary Fever, yet they are never afflicted with one of the burning Kind.

The serous State of the Blood is, also, proved by the Time in which the miliary Pustules make their Eruption; for these, in consequence of the Serosity of the Blood, and the gentler Heat and Motion, are not so soon expelled as those of the papillary and variolous Kind, in which the Blood abounds with a larger Quantity of Sulphur; in the same manner as common Water, is, by equal Degrees of Heat, longer before it boils, than Wine or Brandy. For this Reason, also, the animal Spirits are, in this Disorder, first of all put into a Commotion.

The serous State of the Blood is, also, proved by the Remedies used for the Cure of this Disorder, which are a continued Diaphoresis, and the successive Application of Vesicatories, which at once diminish the Serosity, and correct the Acidity, of the Blood, and nervous Fluid. Besides, the Cure of this Fever is perfected by Nature, by eliminating, in some measure, the Serum of the Blood, in the Generation and Production of the Pustules. Nor are diluting and aqueous Liquors so beneficial in this as in burning Fevers; but Broths, prepared of Fowls, are rather to be copiously drank. Besides, whatever hinders the Diminution of the Serum by a Diaphoresis, proves injurious in this Disorder; such as external Cold, and heating Medicines, not possessed of a diaphoretic Quality.

The Acidity, as well as Serosity, of the Blood are sufficiently demonstrated, by the Dissections of those who die of a Miliary Fever; for in some Parts the Blood is conglutated, and of a blackish Colour, like that produced in Oil by an Affusion of the Spirit of Vitriol; but the same Blood, when taken out of the Vessels, tinges a Linen Cloth with a pale Colour. In other Parts the Blood is so serous, that the Vessels which contain it are of a pale Colour on that account: An Instance of which we have in one of the following Histories; and I lately saw one not unlike it, in a certain illustrious Youth, of about twenty-one Years of Age, who died of this Fever for want of a reasonable Use

Use of proper Measures. Upon laying open his Abdomen, Thorax, and Cranium, the Vessels were in some Parts distended with a blackish and coagulated Blood: But this Blood, when out of the Vessels, tinged a Linen Cloth with a pale Colour. We, also, frequently find, from Experience, that Blood, which, in consequence of drinking a large Quantity of generous Wine, is of a redish Colour, when flowing from the Veins, nevertheless discovers its Serosity by the pale Colour with which it tinges a Linen Cloth. In other Parts of this Carcase the Blood appeared serous, and turgid, with a pale Colour. The Heart, also, together with the Plexus Choroides, which, by reason of the numerous Blood-vessels of which it is composed, is almost always red, was of a highly pale Colour; a Circumstance which proves, that the Blood was both serous and acid: Nor is it to be doubted but the nervous Fluid, proceeding from the Blood, had acquired the same Qualities.

That the febrile Intemperies is first excited in the nervous Fluid, is sufficiently proved by the nervous Symptoms which appear first, such as the Pain, the Sinking of the Spirits, the Watchings, and other Symptoms above enumerated: But at the same time there are no Symptoms, which, in the least, indicate a febrile Fervor of the Blood; such as a violent Heat, a strong Pulse, a Pain of the Head, Thirst, Dryness of the Tongue, and red Urine, discharged in a small Quantity. That the febrile Intemperies first begins in the nervous Fluid, is, also, obvious from the Things which prove beneficial in this Disorder; such as, a Mind, for Instance, free from all exorbitant and tumultuous Passions. This febrile Commotion seems, therefore, to derive its Origin from a Translocation of the Serum of the Blood to the nervous Fluid, from whence it affects the Mass of Blood.

Most Physicians are of Opinion, that an acute continual Fever, which is not of the malignant Kind, draws its Origin, principally, from an Obstruction of the cutaneous Glands, and a Plethora of the Blood-vessels, produced by that means: And it is highly probable, that the like happens to the nervous Fluid, in a simple Miliary Fever; for as, by the Obstruction, the Nerves are render'd tense, so, from this Tension, arises the Pain, which generally appears the first of all the other Symptoms; for which Reason it is rather to be soothed and allayed by diaphoretic Medicines, which diminish the Plethora, and lessen the Obstruction of the capillary Vessels, than by Laudanum; in the same manner as the Patients are, by the Eruption of petechial and various Pustules, more effectually freed from Pain, the primary Symptom of those Disorders, than by the Use of Laudanum.

The nervous Fluid, having its Quantity enlarged, and its Motion retarded, by the Obstruction of the capillary Nerves, impresses an irregular Motion on the animal Spirits, and affects the Patient with an Horror.

But the Cold is succeeded by an Heat, because the nervous Fluid, when the Obstruction is removed, is more copiously conveyed into the Mass of Blood, and by that means accelerates its Circulation. Nor even in this Case, in which the Blood abounds with serous and acid Particles, which check its Motion, is the Pulse so great as in other Fevers, which are first excited in the Blood, when impregnated with saline and sulphureous Particles.

The Heat and Cold mutually succeed each other, but in an irregular manner: This is occasion'd by the Serosity of the Blood, and the nervous Fluid secreted from it, which are, for this Reason, sooner affected by Medicines, Exercise, much Speaking, or the Passions of the Mind. For this Reason nothing more effectually contributes to hinder the irregular Returns of the Heat and Cold, than lying in Bed, and Rest.

The Sighs and Oppression of the Breast arise from a Stagnation of the nervous Fluid in the capillary Nerves of the Breast; for, after an Eruption of the miliary Pustules, the Patients are freed from this Oppression: This Symptom by no means draws its Origin from Serum lodged in the most minute Vessels of the Aspera Arteria, since by that means an Asthma would be produced, and the Oppression mitigated by pectoral Medicines, which, however, together with all such Substances as prevent the Eruption of the Pustules, are, in this Case, prejudicial.

This Oppression is accompanied with a Defect of Spirits, because the Blood being serous, there is, for that Reason, a scanty Secretion of Spirits into the nervous Fluid. This Defect is, also, owing to the Serosity of the nervous Fluid, by means of which the animal Spirits are clogged, and oppressed; for, when the Serosity is diminished by a Diaphoresis, the animal Spirits are set at Liberty, and the Patient seems to recover fresh Strength, just as a Porter, upon laying down his Burden, begins, gradually, to resume his Breath: But this does not happen in a Defect of Spirits, arising from an Hypercatharsis. And it is observable, that the Pulse of Patients labouring under a Miliary Fever, whilst they are afflicted with a Defect of Spirits, and when they are freed from it, exactly resembles that of Persons fatigued by Burdens, and gradually recovering their natural State. But in Cases where too copious Evacuations are made, the Weakness of the Pulse is proportioned to the Depression of the Spirits.

By too brisk a Motion of the animal Spirits, Patients labouring under the miliary Fever are rendered incapable of sleeping,

and often delirious; and, when they compose themselves for Rest, they complain of a certain Confusion of the internal Senses.

Their Freedom from a Pain of the Head, during their Course of Watching, depends upon the languid Impetus of the Blood to the Brain; for tho' it circulates somewhat more briskly, than in sound Persons, yet its Motion is still more faint and languid, than in other Fevers, whether of the intermittent, or continual Kind. For this Reason, also, the Thirst is, in a miliary Fever, far more moderate than in one of the burning Kind. The Urine, also, is paler, more resembling that of sound Persons, and discharged in larger Quantities, because the Acidity of the Blood produces a Separation of the Serum. For which Reason, also, Patients labouring under miliary Fevers are subjected to frequent Vomittings.

In consequence of the Serosity of the animal Spirits, the antagonist Muscles are not always kept equally contracted; by which means convulsive Motions are produced. But if, in consequence of such a Serosity, the Contraction of the Muscles is but small, a Tremor of the Tongue and Hands is only produced.

If, in the Beginning of this Fever, the Patient, mistaking his Disorder for Vapours, rises out of Bed, and uses hot Medicines, the Motion of the Blood and Spirits is, by that means, increas'd; and Nature, instead of producing the miliary Pustules, is stimulated to a preposterous and unreasonable Secretion of the morbid Matter. Hence various Symptoms are produced in various Parts, and the Miliary Fever appears under the Form of some other Disorder. If it affects the Stomach, a Nausea and Vomiting are produced; if the Intestines, Pain, and a Diarrhoea. In which Case, the Pain and Diarrhoea are sooner removed by a gentle and protracted Diaphoresis, than by the Use of Laudanum, or Astringents; and if the Patient should have only two or three Stools, without Gripes, or a Defect of Spirits, I am of Opinion, that neither Opiates, nor Astringents, ought to be us'd; for there is often a sufficient Quantity of Matter to be carry'd off both by Stool, and the miliary Pustules; for which Reason the Prevention of their Eruption by Stools is not to be dreaded. The Truth of this we sufficiently experience in Cases, where there is a large Quantity of Matter to be secreted; in the Small-pox, for Instance, where neither Clysters, nor Venesection, prevent the Eruption of the Pustules. Nor, during the whole Course of the Small-pox, is any Misfortune produced by a gentle Discharge of the Menes.

The Weakness of the Pulse is produced by the Serosity of the Blood, and nervous Fluid; for hence arise a Defect of the animal Spirits, and a languid systaltic Motion of the Heart.

In a Miliary Fever, the Prognostics are these following: If, in the Beginning, the Patient has used an improper Regimen, and the Physician has exhibited such heating Medicines as do not excite a Diaphoresis, tho' the Symptoms should at first be pretty mild, yet the Disorder is often dangerous, because it either terminates in the Death of the Patient, or proves chronic, and long-protracted.

If, from the Beginning of this Fever, any particular Part is affected with Pain; if the Patient is hot, without any Sense of Pain; or if he labours under a Sickness of the Stomach; and if these Symptoms are succeeded by alternate Heats and Colds recurring at unequal Intervals, a Defect of the Spirits, an Oppression of the Breast, accompany'd with Sighs, and an easy Respiration; and, at last, if the Pustules make their Eruption with a gentle and continual Diaphoresis; the Patient is, for the most part, in a hopeful Condition.

If the Delirium, the Convulsions, or the Apoplexy, should, from the pathognomonic Signs of this Fever, such as the violent Oppression of the Breast, the Sighs, and the Defect of Spirits, appear concomitant Symptoms, and happen in the Beginning of the Disorder, they easily yield to the diligent Efforts of the Physician, and the Influence of proper Medicines. But, in the Progress and Decline of the Disease, when the Patient is weak, and the miliary Pustules are, by Cold, or, perhaps, a preposterous Practice, repel'd, a Translocation of the morbid Matter is made to the Brain and Nerves; a Catastrophe soon succeeded by Death.

In a Miliary Fever, a sudden Suppression of a Diarrhoea, whether spontaneously, or by the Abuse of Opiates and Astringents, lays a Foundation for an Apoplexy, especially if the Patient was before dispos'd to that Disease, in consequence of a Plethora, and an unfavourable Structure of the Parts.

When the Urine, being discharg'd yellow, suddenly becomes pale, the Physician is to be upon his Guard, in order to prevent a Translocation of the morbid Matter.

In Child-bed Women, afflicted with this Fever, a Diarrhoea is a dangerous Symptom; because it not only hinders the Eruption of the Pustules, but, also, the Discharge of the Lochia.

A difficult Respiration, a Privation of Voice, a Trembling of the Tongue, and more especially a nervous Dyspnoea, are to be class'd among the dangerous Symptoms attending this Disorder.

The more the Patients are dispos'd to Sleep, they, for the most part, recover the more happily.

Persons of a mild and sweet Disposition are more easily cur'd of a Miliary Fever, than such as are the unhappy Victims of turbulent and unruly Passions.

If Nature and the Physician take the same Measures, and, as it were, act in Concert, the Patients recover their Strength immediately after the Desiccation of the Pustules, unless, in consequence of a Redundance of the morbid Matter, there should be some of its Remains deposited on some particular Part.

If in a Scarlet Fever, after the red Colour is gone, military Pustules appear, they prognosticate the Safety of the Patient.

THE CURE OF A SIMPLE MILIARY FEVER.

From the Nature of a simple Miliary Fever, as already described, we must perceive, that the following Intentions of Cure must be pursued. The Acidity of the Blood, and nervous Fluid, must be corrected, their Serosity removed, and the animal Spirits set at Liberty, and restored; since, by these means, the most dangerous Symptoms are prevented, and a due Equilibrium between the Motion of the Blood, and that of the animal Spirits, restor'd. After these Measures are taken, we must wait a proper Time for the Eruption of the Pustules, produc'd by a Matter duly dispos'd.

In order to correct that Acidity of the Blood, and nervous Fluid, which gives Birth to Coagulations of the Blood and Secretions of the Serum, alkaline Medicines, and especially those of the testaceous Kind, are to be chosen; such as Crabs eyes, prepared Pearls, and others of a like Nature. In order to diminish the Serosity of the Blood, and nervous Fluid, those Substances are most efficacious, which promote a gentle and continual Diaphoresis, the most considerable of which are the compound Powder of Crabs-claws, Goa-stone, and Oriental Bezoar; for, by the repeated Use of these for some Days, the bad Qualities of the Blood, and nervous Fluid, are corrected; and the Pulse, being restored to a stronger and brisker Motion, accelerates a more laudable and equable Eruption of the military Pustules. Indeed, if no Regard was to be had to a Diaphoresis, and if no other Intention was to be pursued, than the Exaltation of the Blood, and animal Spirits, the hotter Cardiacs, such as Virginian Snake-root, Wine, and others of a like Nature, might be copiously exhibited. But in this Fever, these, and other Things of a like Nature, are rarely proper, in order to promote the Eruption of the Pustules; for the Secretion of the morbid Matter cannot be well carry'd on, when the Blood is in a violent Ferment. Besides, Deliriums, convulsive Motions, and other Misfortunes of a like Nature, are often produced by the Use of hot Medicines: All the Secretions, therefore, whether promoted by Nature, or Art, are most properly made by slow Degrees; and this End is most efficaciously obtained by testaceous Substances, which not only cherish a moderate Heat, but, also, correct the peccant Qualities of the Fluids, and promote a Diaphoresis.

Vesicatories are, also, highly efficacious, not only in diminishing the Serum, but, also, in preventing Coagulations, by means of the volatile Salt they contain; for which Reason no Remedy is generally more powerful in soothing Commotions of the animal Spirits, procuring Sleep, or elevating the depress'd and languid Spirits; for so far are Vesicatories from hindering the Eruption, that, by their means, the morbid Matter being in some measure diminish'd, Nature is rendered capable of more easily throwing off the Remainder thro' the usual Emunctories; nor are we to apply more Vesicatories at a time than one, but only one after another, unless some violent Symptom should indicate the Propriety of such a Practice. We must, also, observe to apply a fresh Vesicatory, as soon as the Ulcer, produced by the former, is dry'd up; since I have often observ'd, that, immediately upon the Desiccation of the Ulcers, all the Symptoms were exasperated, and again mitigated by the Application of other Vesicatories.

In the Year 1697 some Patients, seiz'd with a Miliary Fever, were not only afflicted with a Pain, but, also, with a Swelling of the Head; but these Symptoms were gradually abated by the successive Application of Vesicatories. The Disorder of the Forehead was removed by Vesicatories apply'd behind the Ears; that of the Temples and Eyes, by their Application between the Scapulae; and that of the Cheeks, Lips, and Fauces, by the Application of Vesicatories to the Arms, Thighs, and Legs: And, 'tis observable, that, from the Desiccation of one Ulcer, the Pain and Tumor were suddenly augmented, till another was excited by the Application of a fresh Vesicatory.

In the Year 1704. some Patients, labouring under this Disorder, were seiz'd with a Pain of the Fauces, resembling that with which a Quinsy is attended. And though, upon the Appearance of this Symptom, many dy'd suddenly, yet all, says Sir David Hamilton, who were under my Care, escap'd safely, by means of a gentle and continual Perpiration.

In a Miliary Fever, Cathartics are never to be used, unless their Propriety is indicated by some violent Symptom. An emollient Clyster is, however, often proper for cleansing the Primæ Viæ.

Venesection is, also, rarely proper, unless indicated by some violent Symptom, such as an Asthma, a Pleurisy, or some other Disorder of a like Nature.

In a Miliary Fever, the Passions of the Mind are, as much as possible, to be guarded against; and whatever Circumstances, whether of a grateful or disagreeable Kind, throw the animal Spirits into Commotions, are prejudicial. Rest in Bed is, also, to

be prescrib'd. If a contrary Regimen is used in the Beginning of this Fever, the Matter of the military Pustules about to move to the Surface of the Body, being repel'd to other Parts, produces dangerous Symptoms. If, in order to remove these Symptoms, such Medicines are used, as are improper for subduing the primary Disorder, either Death, or a chronical Disease, without any future Eruption of the Pustules, ensue. Hence we understand why Child-bed Women generally recover so easily from this Disorder, that is, because, by lying at Ease in Bed, they procure a gentle and perpetual Diaphoresis, and are treated with diluting Aliments, instead of heating Medicines; for it has been frequently observed, that, among Women in this Condition, such as seem'd to enjoy a tolerable State of Ease, whilst in Bed, were, upon their getting out of Bed, seiz'd with such a Sinking of Spirits, that they seem'd ready to die; and some of them have really died suddenly. Such of them, also, as quit their Beds too soon, imagining themselves to be only hysteric, are rendered worse by that rash and incautious Step.

A memorable Instance of this we have in one Mrs. *Shepherd* in *Bartholomew lane*, who, being seized with an Oppression of the Breast attended with Sighs, a Confusion of the internal Senses, and a Palpitation of the Heart, not only imagined herself vapourish, but was, also, by those who saw her, thought to be in that Condition; for which Reason it was judged expedient she should get out of Bed. But as soon as she had put on her Clothes, Tremors, and convulsive Motions, were added to the former Symptoms. I, says Sir *David Hamilton*, being called, from the Oppression of the Breast, the Sighs, and the Sinking of the Spirits, concluded that she laboured under a Miliary Fever, was in a dangerous Condition, and could not be preserved without a gentle and continual Diaphoresis: I, therefore, prescribed Rest in Bed, without admitting any Visitors; a Vesicatory to be applied between her Scapulae; and directed the following Bolus to be taken every sixth Hour, with some proper Julap:

Take of the compound Powder of Crabs Claws, and Sperma Ceti, each one Scruple; of Saffron, six Grains; and of the Syrup of Cowslips, a sufficient Quantity: Make up into a Bolus.

By these Measures her Cure succeeded so happily, that in two Days time the convulsive Motions were almost entirely remov'd; and the military Pustules, at last appearing, became gradually larger; and the Serum discharged from them, till the very time they were dried up, was thicker and whiter than usual.

It has, also, been sometimes observed, that when Child-bed Women, labouring under a Miliary Fever, have quitted their Beds too soon, they have, by that means, been cut off by a sudden Death. This Misfortune is, no doubt, produced by the Cold repelling the Matter of the Miliary Pustules upon the Nerves. For which Reason, says Sir *David Hamilton*, when I am called to Women in Labour, and observe the pathognomonic Signs of a Miliary Fever, I order them to keep in Bed, and compose themselves for the Delivery of the Fœtus.

It is, also, observable, that Child-bed Women, who in Bed have appeared pretty well, have, upon their rising, been seiz'd with such a Sinking of Spirits, that they appeared as if they were dying: For which Reason these, as well as Women in Labour, getting the Fœtus extracted as soon as possible, are, when they perceive a Languor, and Oppression of the Breast, without any evident Cause, to despise the foolish Advice of their Nurses, and confine themselves to Bed, in order to have a gentle and continual Diaphoresis excited.

THE CURE OF THE SYMPTOMS ATTENDING A MILIARY FEVER.

All the Symptoms of a Miliary Fever, taken collectively, are, in my Opinion, to be removed by the same Medicines, which would be proper to be used, if these Symptoms appeared separately, and by themselves; unless some important Circumstance, to be judged of by a skilful Physician, should contraindicate such a Practice.

A Pain of the Head, or any other Part, is far more infallibly removed by a gentle and continual Diaphoresis, than by Opiates; just as in petechial Fevers, and the Small-pox, we find the Pain is by no means to be removed, till the Matter to be expelled appears on the Skin. When, therefore, says Sir *David Hamilton*, I am called either to a Woman in Labour, or a Patient labouring under any other Pain, and observe a Defect of Spirits, and a frequent, but weak Pulse, omitting the Use of Narcotics, I act in Concert with Nature, and forthwith direct my Intentions to excite a Diaphoresis. But, if the Intensity of the Pain indicates the Use of Opiates, I order Diaphoretics to be mixed with them; otherwise they either do not soothe the Pain, or bring on some other Misfortune in its stead; and, if the Pain is of the pleuritic Kind, or such as discovers an Inflammation in any other Part, Venesection is rarely to be omitted.

But when the Heat and Cold recur alternately, but in an irregular manner, as they generally do, a gentle Diaphoresis, ex-

cited by means of the compound Powder of Crabs-eyes, without any heating Substances, is highly beneficial. This Medicine, though despised by some, says Sir *David Hamilton*, I have often found surprisingly efficacious: Of this we have a remarkable Proof in one Mrs. *Bolton*, who, on the second Day after her Labour, was seized with a Pain of the Abdomen, near the Top of the Thigh. But, the Pain of this Part being somewhat mitigated, she was afflicted with alternate Heats and Colds, Watchings, and an Oppression of the Breast, attended with Sighs and Languor; at last, after some Days, the miliary Pustules appeared. But by every six Hours exhibiting a proper Dose of the compound Powder of Crabs-eyes, in order to continue the Diaphoretic, by checking all the Symptoms, by treating the Patient with diluting Aliments, and a little *Canary Wine*, and ordering her to keep her Bed for fourteen Days after the Eruption of the Pustules, she was perfectly restored to Health; though before her Labour an hectic Heat, a Cough, and a difficult Respiration, seem'd to expose her to the Danger of a Consumption. It is, therefore, obvious, that many, seiz'd with a Miliary Fever, are with great Difficulty restored to Health, either for the want of due Care in the Beginning, as if the Patients were only hysterical; or by the Abuse of hot Medicines, which expel the morbid Matter, not in a critical, but in a symptomatic manner. And it is worth Observation, that as, during the Course of this Fever, I, for the sake of Experiment, neglected its Use, by which the Diaphoretic was stop'd, and all the Symptoms augmented; so, by repeating the Use of it, all the laudable and favourable Symptoms of the Disorder were again brought back.

The Watchings of Persons labouring under Miliary Fevers are removed by Vescicatories, Rest in Bed, Freedom from all Noise, and preserving the Mind unruffled by the Sallies of exorbitant Passions.

In order to remove the Delirium, diaphoretic Antimony, exhibited by itself, is highly efficacious; and though this Medicine is, by some Physicians, esteemed a Calx, destitute of all Virtue, yet I have often in Conjunction with other Medicines, and always by itself, prescribed it with Success, not only in Watchings, but, also, in a Delirium.

Watchings are, also, often removed by a gentle and continued Diaphoresis; which, if it cannot be obtained by the compound Powder of Crabs Claws, is, rather than by means of any other Medicines, to be procured by Spirit of Hartshorn, to be drank in a Posset prepared with Sage, rather than in an Infusion of that Herb, because the former affords more Nourishment, which, in this Fever, is necessary.

If Opiates are ever to be used in this Fever, it is after the Vescicatories. And when the Patient is afflicted with a Diarrhoea, or the Eruption of the Pustules retarded, the most proper and efficacious Medicines are the *Diascordium*, or *Venice Treacle*.

In removing the convulsive Motions, with which Miliary Fevers are attended, I have found nothing more effectual, than anointing all the Joints with Essence of Amber, and frequently exhibiting about twenty Drops of it in some proper Liqueur.

In an Oppression of the Breast, attended with Sighs, and especially with a convulsive Asthma, a gentle and continued Diaphoresis, the Use of the Spirit of Hartshorn, and the Application of Vescicatories, are highly beneficial.

In a Defect of the Spirits, especially when accompanied with a Palpitation of the Heart, I have found nothing more effectual than Treacle-water, either by itself, or in some proper Vehicle, with a few Drops of Sal volatile oleosum, and a proper Quantity of the Powder of Saffron.

In the Tremors attending Miliary Fevers, the animal Spirits are to be recruited by proper Medicines, the most efficacious of which is Saffron; as, also, by nourishing Liquors; such as Broth of Fowls, and others of a like Nature.

In universal Convulsions, especially when arising from a Tranillation of the morbid Matter to the internal Parts, I have successfully used Cupping with Scarification. Then I order heating and volatile Spirits to be put into the Patient's Mouth, and Clysters to be injected, which are highly beneficial in Convulsions, and more especially those of Children.

Sickness, attended with a Nausea, and a preternatural Heat of the Breast, are Signs of approaching Aphthæ. But these Symptoms are mitigated by a Diaphoresis, continued till the Tongue is covered with Aphthæ; at which time it is observable, that the Aphthæ are increas'd in proportion as the miliary Pustules are dried up; and that the miliary Pustules are again elevated, in proportion as the Aphthæ on the Tongue disappear. It, also, sometimes happens, that the Remains of the Fever are, after the Desiccation of the Pustules, derived to the Aphthæ, which are nourished and supported by them.

The Vomiting is prevented by exhibiting ten Grains of the Salt of Wormwood, mixed with one Scruple of the compound Powder of Crabs-eyes, especially if the febrile Heat recurs at equal Intervals, unless this Practice is contraindicated by some Symptom, such as an Inflammation of the Tonsils, which is increased by the Use of lixivial Salts.

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A Diarrhoea happening in a Miliary Fever, I have often found to be augmented by Astringents; or, if suppressed, succeeded by some other more terrible Symptom. For which Reason, says Sir *David Hamilton*, I, in this Case, successfully order a Vescicatory, that, by the joint Means of that, and the Diaphoresis, there may be a Revulsion made of the serous Matter from the Glands of the Intestines. I, also, order a Scruple of prepared Pearls to be exhibited either by themselves, or with some proper Diaphoretic; and the Use of this Medicine is to be repeated for some time.

I have often found the Efficacy of a Vescicatory in curing a long-protracted Diarrhoea, during the Course of a Miliary Fever; for I had a Patient of Distinction, who, after Child-birth, among other Symptoms of a Miliary Fever, labour'd under a Diarrhoea so violent as to produce a Suppression of the Lochia; and by the following Method I removed her Disorder, which had lasted for a considerable Number of Days:

Take of Sperma Ceti, and compound Powder of Crabs Claws, each one Scruple; of Saffron, five Grains; and of the Syrup of Cowslips, a sufficient Quantity for making into a Bolus, to be taken every sixth Hour in a Spoonful of common Julap.

I, also, ordered a Vescicatory to be applied between her Scapulae; by which means the miliary Pustules appear'd, and the Diarrhoea was gradually diminish'd.

If the Theriaca, or other Opiates, are to be used in Miliary Fevers, 'tis certainly after the Use of Vescicatories, which prevent their bad Effects; which Advantage is, also, obtained by mixing Sudorifics with them. But I am convinced, that Laudanum, exhibited by itself, generally suppresses all the Evacuations; or, if it should happen otherwise, the Phenomenon is not to be ascrib'd to the Laudanum, but to some other Cause; just as it, after taking *Peruvian Bark*, or Claret Wine, a Diarrhoea should be produced by a large Quantity of morbid Matter, a Weakness of the Intestines, or a certain Antipathy not to be accounted for. Nor is it any Objection to this Doctrine, that, after taking Laudanum, a Sweat is sometimes produced, and the various Pustules enlarged, since neither of these Circumstances depend immediately upon the Nature of the Laudanum, but on the State and Condition of the Distemper. For as in Fevers, during the Fermentation, the Blood is in too rapid a Motion, and Nature, if we may so speak, not at Leisure for a Fermentation, for which Reason the Patient discharges a thin Urine, but, after the Fermentation is over, a thick and turbid Urine, with an Hypostasis; so in like manner, when, after taking Laudanum, the violent Motion of the Blood is check'd, the Nerves relax'd, and the Pores open'd, Sweats in Fevers, and the Pus in the Small-pox, are, by these means, more easily eliminated. The Nature, therefore, of a Medicine is not to be ascertained from any remote and precarious, but from its proximate and immediate Effect; since, in some Patients, Laudanum renders the Body soluble. Instances of a like Nature frequently occur, and, if duly consider'd, would, in a great measure, prevent a great many of the ungentle Disputes and Altercations of Physicians.

THE COMPOUND MILIARY FEVER.

The compound Miliary Fever is, when the miliary Pustules are interspers'd with red Papillæ, commonly called a Rashi, or with petechial Eruptions, the Small-pox, or Measles.

The Symptoms of this Disorder are almost the same with those attending that Species of Fever called *Synochus*, only the Patients are, in the former, more afflicted with a Sinking of the Spirits, and Sighing, than in the latter; they are, also, more subject to Watchings, and their Urine bears a nearer Resemblance to that of sound Persons.

In this Disorder the miliary Pustules are sometimes not only intermixed with others of a redish Colour, but, also, remain after these last-mention'd Pustules are totally dried up: But, in the Measles and Small-pox, the miliary Pustules generally precede these Disorders, and accompany them in their Beginnings.

In a compound Miliary Fever, the Symptoms seem rather to proceed from some Disorders of the Blood, than of the nervous System, since the Pulse is frequent and strong, the Heat intense, the Tongue dry, and the Thirst immoderate; whereas 'tis quite otherwise in a simple Miliary Fever. But a Defect of Spirits, and Sighs produced by the Oppression about the Breast, are Symptoms common to them both.

As for the Cure, in Cases where miliary Pustules accompany the Measles and Small-pox, diaphoretic Medicines, pretty hot in their Natures, are safer than in the Small-pox appearing by themselves.

External Cold, or a cold Regimen in any respect, are dangerous, and frequently prove the Causes of a sudden Death, even when most of the Symptoms lay a Foundation for expecting an happy Termination of the Disorder.

For this Reason hot Opiates, such as *Diascordium*, and others, of a like Nature, produce more happy Effects, than *Diascordium*,

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or Laudanum, when the Miliary Pustules appear in Conjunction with the Small-pox.

OF SOME DISEASES WHICH SUCCEED MILIARY FEVERS.

Besides the Consequences of a Miliary Fever already mention'd, there are two, which, somewhat more frequently than the rest, occur; that is, a Tumor of the inferior Parts of the Body, and an hectic Heat.

Sometimes the Feet, Legs, Thighs, and Groin, are remarkably swell'd, sometimes without, but, often with more an immoderate previous Pain: This Swelling is produced by a Congestion of the Remains of the morbid Matter, in consequence of preposterous Methods used for the Cure of these Fevers.

This Species of Disorder is to be cured by exhibiting every Night cathartic Pills, together with Opium itself, or some Opiate. The Opiate, says Sir David Hamilton, I prescribe, is one Scruple of the Pilule de Cynoglossis; and I am directed in my Choice of a Cathartic, by the Nature of the Symptoms. Thus, for Instance, when the Appetite and Digestion are diminish'd, I give half a Dram of the Pilule Stomachicæ; in a Suppression of the Lochia or Menstrues, a proper Dose of the Pilule Aloephanginæ, or the Pilule scutellariæ; sometimes, also, I order four or five Grains of the Resin of Jalap, to be added; and on other Occasions, I order a Draught of the bitter Decoction without Sugar, twice a Day. If stronger Cathartics are to be used, I exhibit them every other Night, and order some stomachic Decoction to be taken on the intermediate Days. By following this Method I have rarely fail'd to produce a happy Cure, after a great many other Medicines have been used to no Purpose.

When the Tumor is without Pain, I use Cathartics without Opiates; but, if the Swelling is a concomitant Symptom of the Miliary Fever, it is dissipated by a Diaphoretic duly protracted without any other means.

Both the simple and cathartic Spirits of Scurvy-grass are of singular Efficacy for removing this Swelling subsequent to the Miliary Fever. The Efficacy of the simple Spirit I experienc'd in Mr. Bellasis, who, about the eightieth Year of his Age, being seized with a violent Miliary Fever, was, by the King, committed to my Care. In this Patient the Fever, when remov'd, was succeeded by a Tumor from the Groin to the Toes, which after the Application of Vesicatories to no Purpose, at last yielded to the Use of simple Spirit of Scurvy-grass.

The Efficacy of the joint Use of the simple Spirit of Scurvy-grass, and that of the cathartic Kind, prepared with Jalap, I experienced in one Mrs. Lane, who some Years before had been afflicted with a Miliary Fever in Child-bed. She being seized with a violent Pain, and a Swelling from the Groin to the Toes, was committed to the Care of two very eminent Physicians, but to no Purpose. This Patient I perfectly cured, by giving twenty or thirty Drops of the simple Spirit of Scurvy-grass, thrice a Day, for two Days successively, in some proper Vehicle, and every third Day about an hundred Drops of the cathartic Spirit of Scurvy-grass, and a proper Dose of the Pilule Matthæi at Bed-time.

An hectic Heat, a Diminution of Appetite, and a Defect of the vital Spirits, are, also, sometimes the Consequences of a Miliary Fever, especially when the Patients quit their Beds too soon.

The Method of treating these Cases with Success is this; Every Morning, for some Days, let the Patient take ten or eleven Grains of the Salt of Wormwood, in a small Draught of Spaw-water; and, if the Spirits are highly defective, let him drink after it, by little and little, two Pints of the same Water. Or if Spaw-waters cannot be had, he may take his Salt of Wormwood in a proper Quantity of Bath-water, drinking after it two Pints of the same, in like manner, that by this means the Remains of the Acid, which in this Fever is always productive of Mischief, may be discharged along with the Water and Salt of Wormwood.

If a Pain of the Head should be induced by the Use of the Salt of Wormwood, I order some lenitive Medicine to be exhibited every third or fourth Day at Bed-time. Saline and acid Substances are not to be used; and too much Exercise, either of Body or Mind, is carefully to be avoided; for I have often seen a Relapse produced by either of these Errors; nor is the Relapse of an intermittent Fever more effectually produced by the preposterous Use of the Peruvian Bark. In this Case Asses-milk, with the testaceous Powders, and especially Pearls, generally proves highly beneficial. Hamilton de Fevre Miliari.

MILIARIUM. A tall narrow Vessel, used in the ancient Baths for heating Water.

MILIOLUM. A small Tumor in the Eye-lid, of the Size of a Millet-seed. M. A. Severinus.

MILITARIS HERBA. The same as STRATIOTES; which see.

MILIUM.

The Characters are;

It hath a loose divided Panicle; and each single Flower hath a Calyx, consisting of two Leaves, which are instead of Petals,

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to protect the Stamina and Pistillum of the Flower, which afterwards becomes an oval shining Seed.

Boerhaave mentions seventeen Species of this Plant; which are, 1. Milium; semine luteo. C. B. P. 26. Theat. 502. Tourn. Inst. 514. Boerb. Ind. A. 2. 162. Milium. Offic. Ger. 73. Emac. 80. J. B. 2. 446. Rai Hist. 2. 1251. Milium vulgare album. Park. Theat. 1136. MILLET.

Millet has large, broad, Grass like, somewhat hairy Leaves, encompassing the Stalk, which grows to be three or four Feet high, bearing on the Top a large Panicle, hanging down the Head, composed of a great Number of slender Stalks, having many small Glumes growing on them, including small, white, hard, shining Grain: It is sown more in foreign Parts, than here in England; and is there used for Food. It is sown in April, and ripe in August and September.

Millet is cooling, drying, and binding, somewhat windy, and not easily digested; a strong Decoction of it with Figs and Raisins, mixed with Wine, and drank warm a-bed, is a very good Sudorific, though it is seldom used. Miller's Bot. Off.

Milium, *μῖλον*, according to Varro, is of Greek Derivation; for first it was called *μῖλον* (Milon), afterwards *μῖδον* (Midon), and *μῆλιν* (Meline), a common Name to it with Panic. But Vossius proves, that *μῆλιν*, in Dioscorides, Galen, and others of the Ancients, signifies only Panic; and therefore some are inclined to the Opinion of Feslus, that it is called *Milium*, from *Mille*, a thousand, because of its numerous Seeds.

Millet, by Consent of Authors both ancient and modern, is refrigerating and drying; it is of bad Juice, difficult of Digestion, binds the Belly, and generates Flatulencies; it is, however, well known to be a very grateful Food to many Nations at present. In former times it serv'd to make Bread, under a Dearth of better Corn, as we are assured by Dioscorides, Pliny, Galen, and others of the Ancients. Among the Italians, says C. Bauhine, Loaves made of Millet, which are yellow, and eaten hot by many, not out of Necessity, but for their Sweetness; but, when this Bread is grown hard, it is quite black. Of the Flour of Millet and Milk the Italians make fine Cakes, which must be eaten as soon as dress'd, or else they become glutinous, and ungrateful to the Taste. In former times they made a sort of white Puddings of Millet, as Pliny tells us. And among the Cossacks and Tartars, their principal Food is Miller, the crude Meal of which they mix with the Milk of Mares, or with Blood drawn from the crural Vein of their Horses. A Pudding, prepared of Millet, boiled in Milk, with an Addition of Butter, and Sugar sprinkled over it, is much in Request among the Germans at present; and these Puddings have been long ago introduced into England, and are still in Fashion.

The Flour of Millet was formerly us'd in Fomentations for the Gripes, and for Pains of the Head and Nerves; it was applied externally in Blisters, because the Use of it in Cataplasms was difficult, on account of its Friability. If the Membrane of the Brain happens to be wounded, it is excellently conglutinated, says Archigenes, by insuting thereon the Juice of Calaminth, and sprinkling it with the dry Flour of Miller. A Decoction of Millet, with Figs and Raisins, is called, by Heurnius, a noble Sudorific and Diuretic. Or, take of a Decoction of Millet, boiled till it bursts, four Ounces; White-wine, two Ounces. Let the Patient take it hot. Chesneau. Rai Hist. Plant.

Millet is diuretic and astringent; the Seeds are of extraordinary Service in Diseases of the Lungs, and Exulcerations of the Kidneys; made into a Cataplasm, they are anodyne and resolvent. Hist. Plant. ascript. Boerhaave.

2. Milium; semine nigro. C. B. P. 26. Th. 505. J. B. 2. 18. 446. M. H. 3. 196.

3. Milium; Arundinaceum; subrotundo semine; Sorgho nominatum. C. B. P. 26. Boerb. Ind. A. 2. 162. Tourn. Inst. 514. Sorghum. Offic. Ger. 77. Emac. 83. Rai Hist. 2. 1252. Sorghi. J. B. 2. 447. Melica, sive Sorghum. Park. Theat. 1136. Milium Arundinaceum, sive Indicum, semine subrotundo. C. B. Theat. 511. INDIAN MILLET.

It delights in a fat and humid Soil; for which Reason some sow it in their Fields to correct their Luxuriance. It was brought from India into Spain, Italy, and other warm Countries: They sow it in Summer, and reap it in Autumn.

The Seed is like Panic both in Taste and Temperament. The poorest sort of People in Italy, and the Peasants in the Padua, grind the Seed, and make it into Loaves, which are friable, and afford but little Nutriment, being black, difficult of Digestion, and binding. It is more usual to make Puddings, or White-pots, of the Flour, and Milk. In Tuscany they sow it more for the sake of feeding their Poultry, than to serve as Aliment for Men. They, also, give it to their Cows, Horses, and Swine. Of the Pith of the Stalks is prepared an excellent Remedy for the Strumæ; the Preparation of which see in the Bauhines, and Matthioli; which last Author commends, also, the Flowers, for uterine Fluxes, and the Dysentery. Rai Hist. Plant.

4. Gramen; sylvaticum; panicula miliacea sparsa. C. B. P. 8. Th. 141.

5. Gramen; segetum; altissimum; panicula sparsa. C. B. P. 3. Th. 141.

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6. Gramen; arvense; panicula crispata. C. B. P. 3. *Theat.*
 - 32.
 7. Gramen; nodosum; avenacea panicula. C. B. P. 2. *Theat.*
 - 18.
 8. Gramen; agrorum; spica ventri. M. H. 3. 200.
 9. Gramen; pratense; majus; latiore folio; Πά Theophrasti. C. B. P. 2.
 10. Gramen; pratense; majus; angustiore folio. C. B. P. 2. *Prodr.* 11. Th. 29. M. H. 3. 201.
 11. Gramen; pratense; paniculatum; medium. C. B. P. 2. Th. 30. M. H. 3. 201.
 12. Gramen; pratense; minimum; album & rubrum. Ger. *Park. M. H.* 3. 201.
 13. Gramen; paniculatum; aquaticum latifolium. C. B. P. 3. Th. 40. M. H. 3. 201.
 14. Gramen; pratense; serotinum; panicula longa purpurea. *Raii Synop.* 260.
 15. Gramen; aquaticum; fluitans; multiplici spica. C. B. P. 3. Th. 41.
 16. Gramen; exile; hirsutum. Ger.
 17. Milium; Indicum; arundinaceo caule; granis nigris. *Boerb. Ind. alt. Plant Vol. 2. p. 162.*
- MILIUM ARUNDINACEUM. See LACHRYMA JOBI.
MILIUM SOLIS. A Name for the *Lithospermum*; majus; erectum.

Besides the foregoing, Ray mentions another Species of *Milium*, under the following Head;

Milium Arundinaceum, femine plano, & albo. C. B. *Sorghi album, Milium Indicum, Dora.* J. B. It grows in *Arabia*, and, also, in *Cilicia* and *Epirus*.

This Plant is supposed to be the *Dora* of the *Arabians*. It is dry, nourishes little, and binds the Belly. The Seeds are very white, and yield a Flour, of which they make a savoury Sort of Bread in the Form of Cakes, which they bake under the Ashes. The Inhabitants chew the Stalks, and by that means extract a sweet Juice out of them, in the same manner as they do out of Sugar-canes. In the Isle of *Coreyra* (*Corfu*) they feed their Pigeons with this Grain; and in *Cilicia* they sow it, to supply their Want of Wood for Fuel. *Raii Hist. Plant.*

MILLEFOLIUM.

The Characters are;

The Leaves are very finely cut; the Calyx is squamous, and almost cylindrical; and the Flowers are very closely collected into Umbellas.

Boerhaave mentions fifteen Species of this Plant; which are,

1. Millesfolium; purpureum; majus. C. B. P. 140. *Prodr.*
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2. Millesfolium; purpureum; minus. C. B. P. 140.
3. Millesfolium; vulgare; album C. B. P. 140. *Tournef. Inst.* 496. *Boerb. Ind. A.* 112. *Millesfolium*. Offic. *Millesfolium vulgare.* Park. 893. *Raii Hist.* 1. 345. *Synop.* 91. *Millesfolium terrestre vulgare.* Ger. 914. *Emac.* 1071. *Millesfolium Stratiotes pennatum terrestre.* J. B. 3. 136. *Achillea vulgaris, flore albo.* Act. Reg. Par. An. 1720. 320. YARROW.

Yarrow has a white creeping Root, which spreads much on the Surface of the Ground. The Leaves are long and narrow, having on each Side several very finely divided Pennae. The Stalk is firm and erect, a Foot or two high, somewhat hairy, and beset alternately with smaller, and rather finer Leaves. The Flowers grow on the Top of the Branches in flat Umbels, each Flower being made of five little, white, roundish Leaves, set about a Thrum of the same Colour, growing in a scaly Calyx, in which is contained bluish white Seed. It grows every-where in the Fields, and flowers in *June* and *July*. The Leaves are used.

Yarrow is cooling, drying, and binding; very serviceable in all Kinds of Hemorrhages, whether Spitting or Vomiting Blood, Bleeding at the Nose, Dysentery, or the too great Flux of the Menies, or violent Flooding, cooling and tempering its immoderate Heat and Sharpness. It, also, helps a Gonorrhoea, Strangury, Heat of Urine; and, applied outwardly, is of Service against Ruptures, and to stanch the Bleeding in fresh Wounds. *Miller's Bot. Off.*

This Plant is a little acrid, bitter, aromatic, and gives a considerable Tincture of red to blue Paper. It seems to me, that the acid Part of the natural Salt of the Earth, disengaging itself of the other Principles thro' the Texture of this Plant, forms, with the terrestrial Parts, an aluminous Salt, united with a little essential aromatic Oil.

By the chymical Analysis are extracted from the Yarrow several acid Liquors, a great deal of Earth, no volatile concrete Salt, and a little urinous Spirit.

Thus this Plant is vulnerary, resolvent, and astringent. It is used in Pisans, and Infusions, after the manner of Tea. Some boil its Leaves in Broths, to stop all Sorts of Hemorrhages, and especially the irregular Flux of the Piles, and Fluor albus. Its Juice is prescribed from eight Ounces to six; the Powder, from a Dram to half an Ounce: It is mixed, also, with Paste, to make astringent Biscuits. *Tabernaemontanus* says, the Water of Yarrow is good for the Epilepsy; and that the Wine of Mead,

made with this Plant, stops all Sorts of irregular Fluxes. *Martyn's Tournefort.*

It is called *Millesfolium* from the Multitude of its Leaves; *Achillea*, from *Achilles*, who first discovered its Efficacy in the Cure of Wounds, as *Pliny* tells us, and with the same cured *Telephus*. It is, also, called *Stratiotes*, from *σεστρις*, an Army, on account of its Usefulness in the Camp, as an excellent Vulnerary.

Later Observation, says *C. Hoffman*, has taught us, that our *Millesfolium* is so far from stopping an Hemorrhage, that it rather excites one. But *J. Baubine* supposes, that the Reason why Blood happens to be provoked from the Nostrils with *Millesfolium*, is because they are rubbed. It is, also, so violent a Diuretic, that the Use of it for a considerable time, procures bloody Urine. *Hoffman*, therefore, makes a Distinction, and supposes the *Millesfolium acerbum*, or harsh-tasted Millefoil, to have a conglutinating Virtue; and the bitter Sort to be deobstruent, dissolvent, diuretic, helminthic, or a Destroyer and Expeller of Worms, and the like: Now there is a manifest Acrimony and Bitterness in the *Millesfolium minus Cordi*, and the *Millesfolium nobile Tragi*.

But, whatever are the Qualities by which it produces such an Effect, *Reverius*, in his *Observations*, produces many Examples of Hemorrhoids cured by Decoctions of Millefoil, and many other Writers have experienced the same.

I know some Women, says *S. Paullus*, who have preserved themselves from Abortion, by only making a proper Use of the common Millefoil.

For Spitting of Blood, take two Drams of the Powder of Millefoil, in the Juice of Plantain. Millefoil is very proper to provoke Blood from the Nose, by its Roughness, and prickly Hardness, opening the capillary Veins; for which Purpose they put it into the Nostrils, and then, by rubbing and pressing them, cause them to bleed after an easy manner, and in a sufficient Quantity: Hence we call it *Nose bleed*.

The tuberos Excrecence, which is sometimes found on the Root, proceeds from the poisonous or fermentative Liquor infused into the Wound or Puncture inflicted by some Insect, together with its Egg: This Liquor, mixed with the Juice of the Root, excites a Tumor, which becomes the Receptacle, and, as it were, the Matrix of the Egg, and Worm, which is to be hatched, or excluded; and affords it Aliment and Security. *J. Cornutus*, therefore, was mistaken, in making the tuberos *Millesfolium* a distinct Species.

For an excessive Flux of the Menes, *Sennertus* gives the following Prescription: Take Juice of Millefoil, three Drams; Sugar, one Ounce. *Raii Hist. Plant.*

4. Millesfolium; maximum; umbella alba. C. B. P. 140. *Prodr.* 72.

5. Millefolium; nobile; Tragi. *Boerb. Ind. A.* 112. *Achillea*. Offic. *Achillea, sive Millesfolium nobile.* Ger. 915. *Emac.* 1703. *Raii Hist.* 1. 346. *Achillea sibirica, sive nobilis odorata.* J. B. 3. 140. *Millesfolium nobile* *Tournef. Inst.* 496. *Tanacetum minus album odore Camphorae, sive Achillea Dioscoridis.* C. B. 132. ACHILLES'S IRONWORT.

It grows in *Germany*, by the Rhine; in *Languedoc*, about *Montpelier*; and in every Part of *Italy*; and flowers in *July*.

It represses all Sorts of Hemorrhages; and, outwardly used, is an excellent Vulnerary.

6. Millesfolium; Orientale; altissimum, luteum; Abrotani folio. T. Cor. 37.
7. Millesfolium; Orientale; erectum; luteum. T. Cor. 37.
8. Millesfolium; Orientale; erectum; flore flavescens. T. Cor. 37.
9. Millesfolium; tomentosum; luteum. C. B. P. 140. J. B. 3. 138. *Stratiotes, Millesfolia, flavo flore.* Clus. H. 330.
10. Millesfolium; luteum; magis tomentosum, & alius.
11. Millesfolium; luteum; majus; folio lato.
12. Millesfolium; Orientale; foliis Tanacetii incani; radiis pallide luteis. *Plumieria, Orientalis, foliis Tanacetii incani, semijusculis florum pallide luteis.* T. Cor. 37.
13. Millesfolium; odoratum; Montpelienfe. *Pillet* 271.
14. Millesfolium; Tanacetii foliis; flore albo. M. H. 3. 38. *Tanacetum montanum, album, tenuifolium, flore candido.* Baec. Mus. Plant. T. 26.
15. Millesfolium; vulgare; majus; album; foliis eleganter variegatis. *Boerb. Ind. alt. Plant Vol. 1. p. 112.*

Besides other Names before mentioned, it is, also, called *Herba Carpentaria*, Waggoners Herb, because it is much in Use among Carriers and Waggoners, to stop Bleeding. The first and second Species were in Request among the Ancients; they are repressive of Hemorrhages, and at the same time strengthening and astringent, and are proper for a Gonorrhoea, when proceeding from a Laxness of the Parts, and a Solution of the Humours. Especially it is of Service in the Tooth-ach, Hemorrhoids, Hernia, Tumors of the Penis, Head-ach, Pterygia of the Eyes, and poisonous Stings of Bees. *Hist. Plant. adfruct.* *Boerb. p. 169.*

MILLEFOLIUM MONTANUM. A Name for the *Plumieria Alpina*; *Tanacetii folium*

MILLEFOLIUM

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MILLEFOLIUM AQUATICUM. A Name for the *HOTTONIA*; it is, also, a Name for the *Potamogeton*; *flosculis ad foliorum nodos*; and for the *Potamogeton*; *foliis pennatis*.

MILLEGRANA MAJOR. A Name for the *Herniaria*; *glabra*.

MILLEGRANA MAXIMA. A Name for the *Knaewel*; *folio albes; glabro; flosculis plurimis*.

MILLEPEDES.

Aselli, Millepedes & Onisci. Offic. *Aselli.* Schrod. 5. 338. Jonst. de Insect. 126. *Aselli, Millepedes.* Ind. Med. 15. *Asellus.* Mouff. 202. Charlt. Exer. 57. Mer. Pin. 203. *Asellus lividus major.* Raii Hist. Insect. 42. *Oniscus sive Asellus.* Aldrov. de Insect. 632. **WOOD-LICE, SOWS, or CHURCH-BUGGS.** Dale, p. 354.

Millepedes, ὄροι, which are found under Vessels that hold Water, are little Animals, with numerous Feet, which, at a Touch with the Hand, roll themselves up into a spherical Figure.

Drank in Wine, they cure a Difficulty of Urine, and the Yellow Jaundice. Made into a Litus with Honey, they help the Quinsey. Bruised, and heated with Oil of Roses, in a Pomegranate-shell, they are effectual, being instilled, for the Tooth-ach. *Dioscorides, Lib. 2. Cap. 37.*

They are small Insects, scarce a Finger's-breadth in Length, and near half a Digit in Breadth, and of a livid blackish Colour.

They are of fine Parts; digest, attenuate, absterge, and open: Hence they are of singular Efficacy in resolving a tartareous Mucilage, and reducing the Stone to a Mucilage, in opening Obstructions of the Viscera, and, consequently, for the Jaundice, nephritic Pains, Dysury, Colic, Asthma, and the like. Outwardly, the Powder of them is good for the Eyes, and Pains of the Ears; and, made into a Litus, for the Quinsey; apply'd alive, they cure a Phagedæna.

These are so much in the Acquaintance of the common People, that they seem to be Masters of their Medicinal Virtues, and use them in many Cases, without any other Direction. They are, by all Experience, found to be very diuretic and absterfive; which makes them not only frequent in the Prescriptions for Disorders of the Kidneys, but, also, in Obstructions of the Viscera, and in the Jaundice particularly. They abound with a nitrous Salt, which they seem to derive from what they live on. It is somewhat volatiliz'd by its Digestion and Circulation in the Insect, as such Salt always is, more or less, in proportion to the digestive Powers of Animals, into whose Food it enters; yet not so much, but that it is brackish and pungent to the Palate. This makes their deterfive Quality extend further than the larger Glands, and enables them to scour even the minutest Passages, and keep the Nerves clean from Viscosities, and such Things as would clog their Springs, whereby they are good in Palsies, Epilepsies, and all nervous Distempers. And, also, because they open, and, as it were, by their Minuteness and Asperities, cut their Way through any Obstructions, they are good in Strumas, scrophulous Tumors, and inveterate Ulcers. Very remarkable Cures have been performed in these Cases by a long Use of them. They are much the best taken in Substance, or bruis'd in White-wine, the Liquor being drank without settling fine, else a great deal of a saline Matter will fall to the Bottom. These are greatly in Use amongst all Practical Authors, and frequently to be met with in the present occasional Prescriptions. *Sennertus*, in the third Book of his *Prædix*, commends them against the Stone in the Bladder. *Riverius* gives Instances of Wonders perform'd by them in inveterate Strumas and Ulcers, as does, also, that Honour to our Country, Mr. Boyle, who takes notice of them for the same Intention, in his Discourse of the Usefulness of Experimental Philosophy.

MILLERIA.

The Characters are;

It hath a compound Flower, consisting of several Florets, and one Half-floret, contained in one common Flower-cup; but these Florets are barren, and the Half-floret, which is fruitful, is succeeded by one Seed, which is surrounded by the Flower-cup.

Miller mentions four Species of this Plant, none of which have any Medicinal Virtues ascrib'd to them, that I know of.

MILPHOSIS, μίλφωσις, or μίλφαι. A Baldness of the Eye-lids. It is thus call'd according to *Aetius, Tetrab. 2. Serm. 3. Cap. 2.* because, when the Eye-lashes are fallen off, the Edges of the Eye-lids appear red, as if colour'd with μίλφαι, *Minium*.

MILTOS, μίλτος. A Species of *Rubrica*, red Earth, or *Minium*. See *RUBRICA*.

Hippocrates, in his Treatise of Ulcers, recommends this as a proper Application to Burns.

MILVUS. Offic. *Bellon. des Oyse.* 130. Schrod. 5. 321. Raii Synop. A. 17. Mer. Pin. 170. Aldrov. Ornith. 1. 391. Gesn. de Avib. 549. Jonst. de Avib. 13. Charlt. Exer. 72. *Milvus, vulgaris cauda forcipata.* Will. Ornith. 41. *Milvus cauda forcipata.* Raii Ornith. 74. **THE KITE, or GLEAD.** Dale, p. 393.

Of Use in Medicine, are the whole Bird burnt, the Head, Liver, Gall, Dung, and Fat. The Ashes of the Bird, burnt, are said to be effectual in the Gout and Epilepsy, being taken inwardly; the same is said of the Head and Liver, being burnt; and the latter is, also, an Ingredient in ophthalmic Medicines. The Blood, mix'd with Nettles, and apply'd, is said to give Relief

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under the Gout; the Gall enters the Composition of Collyria, for the Eyes; and the Fat is used to anoint the Parts pained with the Gout. Dale from *Schroder*.

MILVUS. Offic. *Bellon. de Aquat.* 195. Salv. de Aquat. 188. Aldrov. de Pisc. 140. Raii Ichth. 293. Ejsd. Synop. Pisc. 89. Charlt. de Pisc. 29. Jonst. de Pisc. 66. *Hirundo.* Rondel. de Pisc. 1. 284. Gesn. de Aquat. 434. *Pirabebe prima.* Pison. *Ignis.* Oppian. **THE KITE-FISH.** Dale, p. 376.

It is taken in great Plenty both in the Ocean and Mediterranean, and the Gall thereof is used to absterge an Albugo, or whatever else in the Eye may occasion a Dimness of Sight.

MILZADELLA. A Name for the *Galeopsis*; *lutea*; *amphioribus foliis; maculatis*.

MIMOSA.

The Characters are;

The Flowers are monopetalous, Funnel-shaped, usually furnished with a Multitude of Stamina, and collected into Heads. The Pod is either simple, bivalve, and full of oblong Seeds; or compounded of several Parts, united by transverse Joints, each of which Parts is pregnant with a roundish Seed; the Leaves are endued with a Systole and Diastole.

Boerhaave mentions seven Species of this Plant; which are,

1. *Mimosa*; folio lato Sennæ; spinosa.
2. *Mimosa*; major; frutescens; spinosa; ramulis communi pediculo in orbem coactis. *Plukn. Alm.*
3. *Mimosa*; non spinosa; major Zeylanica; Domino Hermanf. Excellentissimi Domini Syen. *Breyn. Cent.*
4. *Mimosa*; Zeylanica; filiculis articulatis tenerimis; glabris; semine minimo.
5. *Mimosa*; Surinamensis; spinosa; repens tenuifolia; flore cœruleo.

6. *Mimosa*; Surinamensis; tenui Acaciæ folio; filiqua nigra; glabra; articulata; semine nigro; longo.

7. *Mimosa*; spuria; de Pernambuco; dicta *Mimosa Italica.* *Zanon. 151. Herba Mimosa, non spinosa, λεπίσφακρονέσα, sive Spuria de Pernambuco.* M. 11. 2. 200. *Boerb. Ind. alt. Plant. Vol. 2. p. 56.*

MINA, μινᾶ. The Attic *Mina* was either nummary, or ponderal: In the first Acceptation, it was the sixtieth Part of a Talent, and contained a hundred Drachmæ or Denarii, amounting, in our Coin, to three Pounds four Shillings and seven Pence. *Mina*, considered as a Weight, was also divided into an hundred Drachmæ. See *DRACHMA* and *DENARIUS*.

Mina was, also, a medicinal Weight, consisting of sixteen Roman Ounces, as appears by *Dioscorides* and *Galen*, and *Cleopatra in Cosmetics*, who tells us, that *Mina*, as a Weight, contained sixteen Ounces, one hundred twenty-eight Drans, three hundred eighty-four *Scrupula*, or *Scruples*, seven hundred sixty-eight *Oboi*, one thousand fifty-two *Lupini*, two thousand three hundred and four *Siliquæ*, and six thousand one hundred forty-four *Æreoli*. It is evident, that there was an ancient Attic *Mina* of sixteen Roman Ounces. All Authors, and particularly the Fragment printed with *Galen*, of the Composition of Medicines, agree in this. It is affirmed, in the second Chapter of that Fragment, that the Attic and Egyptian *Mina* contain sixteen Ounces. *Cleopatra, Cap. 7.* says a *Mina* weighs sixteen Ounces, though in another Place of the same Author, it is said, that an Attic *Mina* had twelve Ounces and an half; when they speak of Ounces, they mean the Roman, which is our *Averdupois* Ounce. *Arbuthnot, of Weights and Measures.*

MINARI, seu Pongam. 11. M. A filiquous, or Pod-bearing Tree, in the Provinces of *Paratara* and *Mangatti* in the East-Indies: It has a papilionaceous Flower, and the Pods are long and broad, and lie one upon another, on the flat Side. It is easily propagated; for the Branches require only to be laid on the Ground, in order to take Root; it bears Flowers and Fruit from April to January, and is always green.

The Wood serves to burn; a Bath, prepared of the Flowers, dissolves Flatulencies, and mitigates the Pains of the Gout; a Suffumigation of the Flowers removes a Fever; and their Juice, seasonably applied, cures the venomous Bites of Serpents. *Raii H. P.*

MINEA. A very bad Species of Myrrh, mentioned by *Oribasius, Collect. Med. L. 12.*

MINERA. Properly a metallic Ore; but, by a very bold Figure, it is used by some Authors, to express the morbid Matter which excites and supports a Disease.

MINERALIA. Mineral Substances. Philosophers divide all compound natural Bodies into Animal, Vegetable, and Mineral. According to this Division, all Substances, which are neither Animal, or Vegetable, must be Mineral.

MINISTER. An Assistant to a Surgeon; or a Person who takes care of the Sick.

MINIUM. *Pliny* translates the Greek *κιννabar*, by *Minium*. See *CINNABARIS*, where all the Significations of this Word, among the Antients, are explained. By *Minium*, at present, Red-lead is principally understood. See *SATURNUS*. The *Trochisci de Minio* are described under the Article *CORRODENTIA*.

MINORATIO. A slight and moderate Evacuation, which only lessens the Humours.

MINUTA.

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MINUTA. An Epithet for a very violent Fever; accompanied with a Syncope, which is said to reduce the Patient so much, that he cannot support it longer than four Days. *Castellus.*

MINYANTHES, according to *Blancard*, is the same as *MIL-LEFOLIUM*.

MIPPI. A Name for the *Cereus; scandens; minor; polygonus; articulatus.*

MIRABILIS. Wonderful. An hyperbolic Epithet for many Medicines.

MIRABILIS PERUVIANA. See *JALAPA*.

MIRACAIBA. The Name of a Sort of Palm, which grows in *Brasil.* *Raii Hist. Plant.*

MIRACH. An *Arabic* Word, importing the *ABDOMEN*.

MIRITI. A *Brasilian* Species of Palm. *Raii Hist. Plant.*

MIRMIDONES, in *Paracelsus*, imports Chimeras, Fancies, or idle Dreams. *Castellus.*

MISADIR, or MIXADIR. Sal Ammoniac. *Rulandus.*

MISANTHROPIA, *μισανθρωπία*, from *μισος*, Hatred, and *άνθρωπος*, a Man. An Aversion to the Conversation of Men. It is a Symptom of Melancholy.

MISCE. Mix. This is generally expressed at the End of Prescriptions, by *M.*

MISERERE MEI. A Name for the Iliac Passion.

MISMAR. A Corn on the Toes.

MISOPTOCHOS, from *μισος*, Hatred, and *πτωχος*, a Beggar. An Epithet for the Gout, which seldom inhabits with a Beggar; but frequently accompanies the Rich, Idle, and Luxurious.

MISSA. A Name for the Philosophers Stone.

MISSADAN. Quicksilver. *Rulandus.*

MISCERASSI. Gypsum. *Rulandus.*

MISSIO Sanguinis. Letting of Blood.

MISY. See *CHALCITIS*.

MITELLA, in Surgery, is a Scarf for suspending the Arm; in Botany, the Name of a Plant.

MITELLA.

The Characters are;

The Root is perennial; the Leaves resemble those of the *Cortusa*, and the End of the Pedicle expands into a monophyllous, quinquefid, open Calyx. The Flower is rosaceous, pentapetalous, spiked, the Petals growing out of the Interstices of the Segments of the Calyx. The Fruit is roundish, acuminate, opens into the Form of a Bishop's Mitre, and contains a Multitude of Seeds.

Boerhaave mentions four Species of this Plant; which are,

1. Mitella; Americana; florum petalis integris. *T.* 242. *Cortusa Indica, vel. Hedera terrestris.* *Stap.* in *Theoph.* 366. *Sanicula, montana, Americana, repens.* *H. R. Par.*

2. Mitella, Americana, florum petalis fimbriatis. *T.* 242. *Sanicula seu Cortusa Americana, altera, flore minuto fimbriato.* *H. R. Par.*

3. Mitella; Americana; flore squallidè purpureo, villoso. *Cortusa, Americana, flore squallide purpureo, villoso.* *Flor.* 287.

4. Mitella; Americana; maxima; tinctoria. See *ACHIOTL.* *Boerb. Ind. alt. Plant. Vol. 1. p. 207.*

It has its Name *Mitella*, from the Resemblance of its seminal Vessel to an episcopal Mitre; but I find nothing said of its medicinal Use.

MITHRIDATIUM. It is reported, that the famous *Mithridates*, King of *Pontus*, guarded himself against the Effects of Poison, by taking every Morning a certain Antidote. *Serenus Samonicus* informs us, that, when *Pompey* took the Baggage of this Prince, he was much surprised to find, that his Antidote consisted only of twenty Leaves of Rue, a little Salt, two Walnuts, and as many Figs.

The Medicine now called *Mithridate* is much more compounded, and is thus directed.

Take of *Arabian* Myrrh, Saffron, Agaric, Ginger, Cinnamon, Spikenard, Frankincense, and Seeds of Treacle, Mustard, of each ten Drams; of the Seeds of Hartwort, Opobalsamum, or, in its stead, expressed Oil of Nutmegs, sweet Rush, *Arabian* Stœchas, the true Costus, Galbanum, *Cyprus* Turpentine, Long Pepper, Castor, Juice of Hypocystis, Styra, Opopanax, and *Indian* Leaf, or, in its stead, Mace, of each one Ounce; of Cassia-bark, Poley-mountain, white Pepper, Scordium, Seeds of wild Carrot, Carpopalsam, or Cubebs, Troches of Cypheos, and Bdellium, of each seven Drams; of Spikenard cleansed, Gum Arabic, *Macedonian* Parsley-seed, Opium, the lesser Cardamoms, Fennel-seeds, Gentian-root, red Rose-flowers, and Dittany of *Crete*, of each five Drams; of Aniseeds, Asarum, Acorus, or Culamus Aromaticus, Orrice, the greater Valerian, and Sagapenum, of each three Drams; of Meum-root, Acacia, Scinks, and the Tops of St. John's-wort, of each two Drams and an half; of the best Canary, enough to dissolve the Gums and Juices, which will use about twenty-six Ounces; of clarified Honey, as much as the Weight of all the Ingredients, except the Wine; and

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make into an Electuary. *S. A.* It may also be prepared with Diacodium instead of Honey.

This is reckoned one of the officinal Capitals. *Zwelfer*, in his Notes upon the *Augustan* Dispensatory, blames some of the Ingredients, with his usual Freedom on such Occasions, either as useless, or out of the principal Intention of the Whole; but he seems to have taken much more Pains than was needful, in distributing the several Ingredients into Classes for powdering, because all, except the Gums, are as well so ordered together; and every ordinary Operator knows how to dissolve the Gums and Juices, that will not powder, in the Wine. This is greatly used as a Cordial, an Opiate, and a Sudorific; all which Intensions it is fitted for, from the several Simples in its Composition, of those Virtues. Its Dose is from one Scruple to two Drams; and in most Cases, both as a Cordial, and an Alexipharmic, is a much better Medicine than the *Venice* Treacle. But this, as all other antient Officinals, has many Ingredients, which might have been as well, or better, left out, because they bear no Affinity to the main Design of the Whole. Thus the Agaric is not only useless, but hurtful, by making the Medicine more nauseous: The Succus Hypocystidis answers no End at all; the Cassia-bark should be rejected, because it renders the Medicine slimy; the Poley-mountain, Daucus-seeds, Gum Arabic, red Roses, Dittany of *Crete*, Gentian-root, and Acacia, have neither of them Virtues of any Resemblance, to what is aimed at by this Composition; and, consequently, are more a Clog than a Help to the Whole. It would, therefore, make a much better Medicine, if the other Ingredients of the right Intention were proportionably increased in their Quantities, so as to make the Opium, to which particular Regard is to be had, still bear the same Proportion in the Whole.

MITRALES VALVULÆ. The Mitral Valves of the Heart. See *COR*.

MIVA. Marmalade.

MIXAITHRION, or MIXAITHRIA, *μικαίθριον, or μικαίθρια.* *Galen* explains this, Serenity of Weather, with Showers sometimes interposed. It occurs in *Hippocrates, Epidem. L. 1.*

MIXOPYOS, *μικρόπυος.* Mixed with Pus; an Epithet for Urine in *Hippocrates, Epidem. L. 1.*

MIXTURA SIMPLEX.

Take of the *Spiritus Theriacalis Camphoratus*, (described by *Bates*) ten Ounces; Spirit of Vitriol, two Ounces; rectified Spirit of Tartar, six Ounces. Digest in a Glass Vessel, hermetically sealed, for three Weeks, that they may be exactly united.

It excites Sweat, resists Putrefaction, and is good in malignant Fevers. The Dose is a Dram, more or less. *Pharmacop. Batean.*

MIXTURA TUBULARIS. A Mixture, to smoke.

Take the outward Hulls of Pistachio-nuts, two Ounces; Colts-foot, Betony, Rosemary, all dried, of each three Ounces: Cut them small, and add to them the small Rasplings of Guaiacum, three Ounces; white Amber, and Olibanum, grossly bruised, of each one Ounce and an half; Mastich, one Ounce; distil'd Oil of Nutmegs, one Dram. Mix all together.

Or,

Take of Betony, and Colts-foot, each two Ounces; Rosemary-flowers, and Pistachio-hulls, of each one Ounce; Cardamoms the lesser, one Ounce and an half. Cut them small, and add Oil of Aniseed, sixteen Drops; Oil of Cinnamon, eight Drops: And mix.

Or,

Take Pistachio-hulls, one Ounce; Colts-foot, two Ounces; Tobacco, half an Ounce; Oil of Aniseed, eight Drops. Cut small, and mix together, for smoking.

Either of these may be smoked by Persons subject to Catarrhs, and Desfluxions of Rheum; which, for want of drawing off by such warm and drying Things, would soul, relax, and spoil the Glands, and, at last, destroy the due Texture of the Lungs themselves. But these are adviseable to those only, who have contracted such an Habit of Smoking, that they cannot leave it off.

MIXQUITL. A Name of *ACACIA.* *Raii Hist. Plant.*

MNA, *μνᾶ.* The same as *MINA*.

MNASÆI Pharmacop. The Name of an emollient Plaster, described by *Galen, L. 1. C. 4. de Comp. M. P. G.* and of another directed by *Paulus Aegineta, L. 7. C. 17.*

MNEME. *Castellus* informs us, that this is a Name for a Cephalic Balsam, described by *Junkri*; I believe it is the same as the *Balsamum Vitæ*, described by *Schroder, L. 2. C. 41.*

MNEMECEPHALICUM Balsamum. This Balsam is said to have been purchased from a certain *English* Physician, by *Charles* Duke of *Burgundy*, at no less a Price than ten thousand Florins;

Florins; and some Authors assert it to be of so uncommon Efficacy, as to preserve in the Mind the perpetual Remembrance of Things past. Whether this be true or false, is best known to those who have experienced its Virtues. 'Tis, however, prepared in the following Manner.

Take of the Juices of the Leaves of Baum and Basilicon, and of the Juices of the Flowers of Tamarisk, Lilies, Primroses, Rosemary, Lavender, Borage, and Broom, each two Ounces; of Lilies, Roses, and Violets, each one Ounce; of Cubebs, Cardamoms, Grains of Paradise, Yellow Sanders, Carpobalsamum, Orris, oriental Saffron, Savory, Piony, and Thyme, each half an Ounce; of liquid Storax, and Storax Calamita, of Opopanax, Bdellium, Galbanum, Gum Hedera, and Ladanum, each six Drams; of the Roots of long Birthwort and Piony, and of the Oils of Turpentine, Nard, Costus, Juniper, Bays, Mastich, Been, and Spike, each five Drams.

Reduce to a Powder the Ingredients which should be so treated; mix all together, and distil from an Alembic, with due Degrees of Fire, till the Water and Oil are separated. The Method of using this Balsam is said to be this: The first two Months, the Passages of the Nostrils and Ears are duly to be anointed with the Bulk of a Pea of it; the two following Months, every third Day; and for two other Months, twice a Week; then once a Week; then once each Fortnight, till a whole Year is expired; and afterwards, in the succeeding Years, once each two Months.

Sennert. Pract. Lib. 1. Cap. 5.

MNIUM. A Sort of Mass. See the Explication of Botanic Terms under the Article BOTANY.

MOCHLIA, *μοχλία*. This is defin'd, A Reduction of the Bones from an unnatural to a natural Situation.

MOCHL'CA. Drastring, or violent Purges.

MOCHUS. A Name for the *Ervum verum*.

MADAGAM. The Name of a Shrub, which grows in *Malabar*, call'd *Pomifera Indica*, *flore Rhododendri*; *fructu pyramiformi*.

A Decoction of the Root and Bark is said to remove inveterate Pains of the Head. A Potion is prepar'd of the Leaves, of Efficacy in restoring the suppress'd *Catamenia*.

MODERNI. The Moderns. As the antient and modern Medicinal Writers are frequently mention'd in this Work, I judg'd it necessary, in order to explain what I mean by the one and the other, to fix some particular Time as a Limit betwixt them. The Revival of Learning in *Europe* was caus'd by the Destruction of the *Greek Empire*, at the sacking of *Constantinople* by *Mahomet the Great*; for on that Occasion many learned *Greeks* retir'd from that City, and brought with them the Sciences into *Italy*. The Day, therefore, on which *Constantinople* was taken, may be esteem'd the Birth-day of Learning, with respect to the Western Parts of *Europe*. This was *May* the twenty-seventh 1453. All the Medicinal Authors, therefore, who wrote before this *Æra*, I call Antients, and those who succeeded them Moderns.

MODIOLUS. The Crown, or Saw of the Trepan. See CAPUT.

MODIUS. A Measure of Capacity for things dry, containing sixteen Sextaries, or Pints.

MODUS sometimes signifies a Measure, or Proportion. *Rhodus in Scribon. Larg.*

MOGHALIA, from *μόγης*, importing Difficulty, and *αλέω*, to speak. A Difficulty of Speech.

MOGORI FLORES. The Name of certain very fragrant Flowers, describ'd by *Breynius*, from which the *Indians* distil a very fragrant Water, of the same Use as Orange-flower-water.

MOLA. This has various Significations; for the *Patella* is sometimes thus call'd; and the *Dentes molares*, and the Jaws, are by some nam'd *Mole*.

But *Mola* generally signifies a fleshy Mass, which grows preternaturally in the Womb.

La Motte says, that a Mole, and a false Conception, seem to be the same thing, except that, if it is excluded before the second or third Month, it is call'd a false Conception; if after that time, a Mole. And thus it is distinguished by *Mauriceau*.

The Signs of a Mole, or false Conception, are the same as those of a true one; except that in a true Conception the Belly often grows flat, and less, till the End of the second Month; on the contrary, a Woman who has a Mole, or false Conception, grows big from the very first, and her Belly continues to increase till the End of the second or third Month, at which time it generally comes away. If it happens to stay longer, it frequently proves fatal to the Woman, causing violent Floodings, which are not to be remedied without Delivery, before which a Woman is often reduc'd to the utmost Extremity; especially if a skilful Midwife is not call'd in time.

A Mole is not, like a Child, envelop'd in Membranes; nor has it any Waters, or Secundines, itself performing the Office of

the Secundines, and being in the same manner attach'd to the Uterus, from whence it derives its Nourishment by means of its Vessels: Hence it appears, that, as soon as a Mole is excluded, the Flooding ceases.

When a false Conception, or a Mole, comes away before the End of the third Month, the Woman is frequently deliver'd of it without any Assistance, but never without Floodings; but it often happens, that a skilful Hand is necessary to bring it away.

A Mole is to be extracted in this manner. A Finger is to be introduc'd thro' the Vagina into the Os Uteri; and, if the Mole cannot be brought away with one Finger, a second is to be introduc'd; and with these the Mole is to be taken hold of, and extracted.

It is to be observ'd, that in case, when a Mole is brought away, the Flooding continues, it is to be suspected, that either a Part of it, or another entire Mole, is left behind, which is, therefore, to be found, and brought away as the first. *La Motte*.

A Mole, says *Weipfer*, is a fleshy Substance, of an irregular Form, produced in the Uterus, either from a Concretion of the menstuous Blood, from a Retention of Part of the Secundines, or from an imperfect Conception. Virgins and Widows are seldom affected with this Disorder, but married Women frequently. The Forms and Sizes of Moles are extremely different. Sometimes they have no Connection with the Uterus; sometimes they are attached to it by a Blood-vessel, or fleshy Fibre; and sometimes they are strongly and intimately conjoined. They are generally discharg'd alone, but sometimes excluded with the Fœtus. If they are generated alone, they are usually brought forth about the second or third Month, and are preceded by the same Pains, which attend a real Delivery; sometimes these Pains are more violent, the Symptoms more severe, and the Hæmorrhage is often so excessive, as to endanger the Life of the Mother. Sometimes Moles continue many Months in the Uterus, and acquire the Size of a mature Fœtus.

These false Conceptions are generally accompanied, for the first four Months, with the same Symptoms which attend a natural Pregnancy; but afterwards they afford Signs, by which they may easily be distinguished. For, 1. a Mole excites no Motions in the Womb, like a live Child, after the fourth or fifth Month of Pregnancy. 2. A Mole distends the Belly equally, but a Child makes it most prominent toward the Navel, or one Side. 3. A Mole changes its Situation in the Belly, according to the Posture of the Mother; a Circumstance never observed in a living Fœtus. 4. In a false Conception, little or no Milk is collected in the Breasts; but the Breasts, in a natural Pregnancy, are more and more distended with Milk. 5. More severe Symptoms attend a false Conception; the Complexion is disagreeably altered, the Appetite is vitiated, the whole Habit is impaired, and the Region of the Loins and Pubes is affected with excruciating Pains. Sometimes a Dropsy, when it reaches the Abdomen, also, occasions these Symptoms.

When a Mole, and not a Child, certainly appears to be contained in the Uterus, its Expulsion should be attempted by proper Medicines; and, if these prove ineffectual, an expert Operator, should endeavour to extract it, by judiciously introducing the Hand into the Womb. If the Mouth of the Womb be too strongly contracted to admit the Hand of the Operator, it will be necessary to excite the Mother's Throes by brisk Cathartics, and strong Clysters, while the Mouth of the Womb, and Parts adjacent, are, in the mean time, gradually relaxed and opened by the Application of emollient Fomentations. One or two Fingers may now be gently insinuated, and by degrees the whole Hand, to lay hold of the Mole. If the Mole, as is often the Cause, adheres firmly to the Uterus, it should then be gently separated by the Fingers, before its Extraction, as we are told by *Hildanus*, who performed this Operation. But, if the Fingers are unable to make this Separation, it will be necessary to use a Pair of long and obtuse-pointed cutting Forceps, like that represented in *Tab. LV. Fig. 1*. Lastly, if the Mole be too large to be extracted entire, it may be carefully separated, and brought out in Pieces, either with the Fingers, a falciform Knife, or a Hook, represented in *Tab. LIV. Fig. 17, 18*. Those who are desirous of further information, particularly with regard to the Extraction of the Mole, may consult the Observations of *Hildanus*, *Roonbusch*, and *Mauriceau*. To conclude, when a Mole occasions no bad Symptoms or Uneasiness in the Mother, and its Extraction appears difficult, no Violence ought to be used, since we have many Instances of their being retained with little Detriment, to the Patient, during Life.

MOLARIS LAPIS. The Mill-stone. It is thus distinguished.

Lapis molaris. Offic. Aldrov. Mus. Metall. 721. Cup. Hort. Cath. Supp. 2. 53. *Lapides Molares*, Charlt. Foss. 17. Boet. 524. *Mole*. Worm. 41. *Molares*. Mer. Pin. 212. THE MILL-STONE.

It is digged out of the Quarries in *Derbyshire*.

M O L

I find this, says *Dale*, inserted in the Catalogue of officinal Simples, at the End of *Skipton's Dispensatory*; but, for what Reason, I cannot guess, since the only Use we know of it in England is to grind Corn. But the Grit of the Mill-stone, may probably have the same Virtues as that of the Whetstone. See *Cos*.

MOLDAVICA. *Turkey Balm*, or *Baum*.

The Characters are;

The Leaves are long, narrow, and crenated; the Galea, or Crest, is arched, bifid, and reflexed upwards; the Beard is divided into two Parts, which are united by marginated Fauces; the Calyx is tubulous, cut into two unequal Parts, and closes when mature; the Seeds are of an oblong Figure.

Boerhaave mentions six Species of this Plant; which are,

1. *Moldavica*; *Betonica* folio; flore cœruleo. *T.* 184. *Melissa*, *peregrina*, folio oblongo. *C. B. P.* 129. *M. H.* 3. 408. *Melissa*, *Turcica multis dicta* *I. B.* 3. 2. 234. *Tab. Ic.* 351.

2. *Moldavica*; *Betonica* folio; flore albo. *T.* 184. *Melissa Moldavica*, flore albo. *Citrage Turcica*, flore albo. *H. Eyft. Æit.* o. 7. F. 2. Fig. 2.

3. *Moldavica*; *Americana*; trifolia; odore gravi. *T.* 184. *Cedronella*, *Canariensis*, viscosa, foliis plerumque ex eodem pediculo ternis. *H. A.* 2. 81. *Dracocephalo affinis*, *Americana*, trifolia, odore *Terebinthinæ*. *Volk.*

4. *Moldavica*; *Orientalis*; *Betonica* folio; flore magno, violacea. *T. Cor.* 11.

5. *Moldavia*; *Orientalis*; *Betonica* folio; flore magno, albido. *T. Cor.* 11.

6. *Moldavica*; *Orientalis*; *falicia* folio; flore parvo, cœruleo. *T. Cor.* 11. *Boerb. Ind. alt. Plant. Vol. 1. p.* 168.

It is called *Moldavica* from *Moldavia*, the Name of the Country whence it was brought, and where it grows without Culture.

This Plant, says *Boerhaave*, was brought to me from *Moldavia* in *Turkey*, by a Botanist, who gave it the Name of *Moldavian Turkey Baum*; but, for avoiding a Synonymy of Names, I think we had better call it *Moldavica*. There is nothing said of its Virtues; the first and second Species have exactly the Smell of *Baum*, and may be used instead of it; they have a very strong balsamic Smell. The third is like *Peruvian Balsam*, and is perhaps endued with the same Virtues. *Hist. Plant. adscript. Boerhaav.*

MOLENDESIS, in the *Theatrum Chymicum*, Vol. 5. is a Defect of Heat.

MOLGA. The Salamander. *Rulandus*.

MOLIBATO. *Rulandus* explains this by *Calchum*, *Æs Flumini*.

MOLLE. The *Indian Molle*, or *Mastich-tree*.

The Characters are;

The Leaves are pinnated, and terminate in an odd Lobe; the Flower is rosaceous, and the Fruit like a Grain of Pepper. *Boerhaave* mentions but one Sort of this Plant; which is,

Molle. Clus. in Marard. 312. *Lentiscus*, *Peruana*. *C. B. P.* 399. *Boerb. Ind. alt. Plant. Vol. 2. p.* 258.

The Tree, being wounded, yields a very fragrant Resin, like that of the *Lentiscus*. *J. Bauhine* describes this Resin, or Gum; and says, that it much resembles what is sold in the Shops by the Name of *Gum Elemi*, only it appears a little whiter. This Tree grows plentifully in the Valleys and Countries of *Peru*.

The Decoction of the Bark makes a Fomentation of extraordinary Efficacy in Pains of the Legs, and Inflammations. Of the small Branches are made very serviceable Toothpicks. Of the Fruit boiled in Water, according to the Measure of Decoction, they prepare either a Wine, or a very good sort of Drink, or Vinegar, or Honey; the Decoction of the Leaves gives Relief under Pains proceeding from a cold Cause. The Gum dissolved in Milk is said to absterge Things in the Eye causing Dimness of Sight. *C. Romanus* assured *J. Bauhine*, from his own Experience, that a Dram and an half of it was an excellent Purge. *Monardes* writes, that the Powder of the Bark cleanses and heals Wounds, being sprinkled thereon; the same fastens loose Teeth, and restores the Gums, when fallen away, or absceding from them. The Leaves, bruised, emit a most excellent and remarkable Smell; Cloths dipped in their Decoction, and apply'd to Wounds hot, or the Powder of the Bark sprinkled thereon, hastens the Cure by preventing the Flux of the Humours to the Part. The ripe Grains have on their Superficies a very small Quantity of a pleasant and very palatable Pulp; the rest is extremely bitter. They make a Drink of them, by gently rubbing them between their Fingers in warm Water, till all the Sweetness is rubbed out, carefully avoiding the Bitter, which would spoil the Drink. They strain this Water, and keep it some Days, till the Faeces subside. This Drink is clear and limpid, very grateful, and no less wholesome, especially for those who labour under Disorders of the Kidneys or Bladder; and the more, if it be mixed with the Drink prepared of *Mayz*. The same Water, being more fully boiled, becomes a very good Honey; and, being exposed to the Sun, with an Addition of I know not what Ingredients, is converted

M O L

into very good Vinegar. It is usual with *Empirics* to exhibit in this Water the Buds of the Tree, after they have been exposed to the Night-dew, under the Paroxysm of a Fever, and with good Success. *Raii H. P.*

MOLLIFICATIO. A barbarous Term for a Palsy of the Muscles of any particular Part, as the Anus.

MOLLUCCA. A Crab which has just cast its old Shell; and acquired a new one, which is soft.

MOLIUGO.

The Characters are;

The Leaves are soft, dispos'd five or more at a Place, neither rough, nor hairy. The Fruit consists of a Pair of dry Seeds, which are lunated, or of the Figure of a Crescent, or Half-moon.

Boerhaave mentions three Species of this Plant; which are,

1. *Mollugo*; *montana*; *latifolia*; *ramosa*. *C. B. P.* 334. *Boerb. Ind. A.* 148. *Mollugo montana*. *Offic. Rubia sylvatica levis*. *J. B.* 3. 716. *Raii Hist.* 1. 481. *Gallium*, siue *Molluga montana*. *Ger.* 967 *Emac.* 1127. *Gallium flore albo majus*, siue *Molluga montana*. *Park. Theat.* 564. *Gallium montanum latifolium ramosum*. *Tourn. Inst.* 115. **MOUNTAIN WILD MADDER.**

It grows in mountainous Places, and flowers in July. The Herb is used, which agrees in Virtues with the two other Species which follow. *Buxbaume* observes, that this Plant is sold in our Shops under the Name of the *Matrisylva*, or *Asperula*. *Dale.*

2. *Mollugo*; *hexaphyllos*; *latifolia*; caule firmio ri, rubello, tenui; flore albo. *Rubra Pyrenaica*, folio *Molluginis*. *Tourn. Flor.* 2. 58.

3. *Mollugo*; *Americana*; folio *Parietariae*. *Vall.* *Anonymos Americana*, foliis *Parietariae scabris*, floribus albis, ad foliorum ortum vix conspicuis. *Plukn. Phyt.* 136. 4. *Boerb. Ind. alt. Vol. 1. p.* 148.

It has its Name from *mollis*, soft, because of the Softness of its Leaves. The whole Plant has the outward Appearance of the *Rubia*, or *Madder*, but is soft on the Inside: It is said to have an aperitive Virtue. *Boerhaave.*

MOLLUGO is, also, a Name for the *Cruciata*; *glabra*; folio nervoso, rigido; *Bacca gemella*, sicca, hispida; flore lacteo.

Besides the foregoing Species of *Mollugo*, *Dale* mentions the following, which he takes to be the *Alyssum Plinii*. See **ALYS-SUM**. It is thus distinguished:

Mollugo. Offic. Mollugo vulgarior. *Park. Theat.* 565. *Raii Hist.* 1. 481. *Synop.* 3. 223. *Mollugo montana angustifolia*, vel *Gallium album latifolium*. *C. B. P.* 334. *Rubia angustifolia aspera*. *J. B.* 3. 715. *Gallium album vulgare*. *Tourn. Inst.* 115. *Alyssum Plinii*, *Lib.* 24. *Cap.* 11. **BASTARD MADDER.**

It grows in Hedges and Bushes, and flowers in June. The Root is used, and has the same Virtues as that of the common *Madder*, but is milder. *Dale.*

MOLOCH, in Chymistry, is a Leaden Pot, through which Mercury is made to pass in the Fire. *Castellus* from *Libavins*.

MOLOCHINE, *μολοχίνη*. An Epithet for a green Plaster, described by *Galen*, *Lib.* 2. *Cap.* 2.

MOLON. A Name for the **FILIPENDULA**.

MOLOPS, *μολωψ*. A Sugillation, or a red or purple Spot, which appears in some malignant Fevers, on the Surface of the Skin.

MOLUCCA. *Molucca Balm*, or *Baum*.

The Characters are;

The Calyx is expanded, large, Bell-shaped, as it were, membranaceous, and open. The Galea is hollow, the Beard tripartite, the middle Segment commonly bifid. The Flower is very small, and concealed in the Centre of the Calyx. The Seeds are angulous, and hardly covered.

Boerhaave mentions two Species of this Plant; which are,

1. *Molucca*. *J. B.* 3. 2. 234. *Melissa*, *Moluccana*, odorata. *C. B. P.* 229.

2. *Molucca*; spinosa. *Dod.* p. 92. *Melissa*, *Moluccana*, scissida. *C. B. P.* 229. *Molucca asperior*, *Syriaca*, & *Mafeluc Turcarum*. *Lob. M. H.* 3. 380. *Boerb. Ind. alt. Plant. Vol. 1. p.* 173.

This Plant takes its Name from the *Molucca* Islands, where it was discovered. It is a Vulnerary, and very good in a Phthisis, being used as Tea. If the Disease be attended with Spitting of Blood, the expressed Juice is of Service, on account of its astringent Quality, which is adapted to an Hemoptoe. No Plant is a better Lichontripic, the Leaves being infused in Wine, or Spirit of Wine. It has the Virtues of *Baum*, but smells somewhat stronger. Here it may be proper to observe, that the perfectly cerulean Colour of all Plants proceeds from the Fatness of the Soil in which they grow; this is universally true of them all, and particularly in the Instance before us. *Hist. Plant. adscript. Boerhaav.*

MOLUCCANA. See **MOLUCCA**.

MOLY.

The Characters are;

M O L

It resembles Garlick in every respect, except that it has a sweet Smell, or, at least, one not very disagreeable.

Boerhaave mentions seven Species of this Plant; which are,

1. Moly; latifolium; Liliflorum. C. B. P. 75. *Moly Theophrasti*. Clus. H. 191. See ALLIUM.

2. Moly; Indicum. Clus. Hist. 192. *Caucasum, Moly Indicum vocatum*. Lob. Ic. 162.

3. Moly; angustifolium; umbellatum. C. B. P. 75. *Moly Dioscoridis*. Clus. H. 192.

4. Moly; moschatum; capillaceo folio. C. B. P. 76. *Prodr.* 48.

5. Moly; Virginianum; moschatum.

6. Moly, quod Gethioides; sylvestre. Col. 2. 7.

7. Moly; parvum; caule triangulo. C. B. P. 75. *Boerb. Ind. alt. Plant. Vol. 2. p. 146.*

All the ancient Interpreters of *Homer* expound his *Moly*, by *πύργανον ἄγριον*, wild Rue; because the *Cappadocians* and *Galatians* gave that Herb, which is a Native of their Country, the Name of *Moly*. This Plant, however, is quite different from *Homer's Moly*, which, *Theophrastus* tells us, was still to be found in his Time in *Arcadia*, with the Leaf of the Sea-onion, and the Root of the Bulbus. With respect to this the following Passage in *Pliny*, *Lib. 25. Cap. 24.* ought to be considered: "There is an Herb, much celebrated by *Homer*, which the Gods as he supposes, call *Moly*. The Discovery of it he ascribes to *Mercury*, who propos'd it as a Preservative against the most powerful Incantments. The true *Moly* of *Homer* grows, they say, at present, about *Pheneum*, and in *Cyllene*, in *Arcadia*. It has a round and black Root, of the Bigness of an Onion, and the Leaf of the Sea-onion; but it is difficult to be dig'd up." Here the Author confounds together different Relations; the former Part he takes from *Theophrastus*, who says, that *Homer's Moly* grew in *Arcadia*, in the same Form as he there describes; but then he adds, *ἡ μὲν οὐρύττειν γὰρ ἔδ' χαλεπὸν, ὥς Ὀμήρου φησὶ* "it was not difficult to be dug up, as *Homer* says: "The contrary of this is taken by *Pliny* out of *Homer*, and subjoined to the Description of *Theophrastus*, with a View, probably, that it might appear to be the same *Moly*, which, he tells us, some Physicians, well vers'd in Herbs, had persuaded themselves they had found growing in *Italy*; in Confirmation of which, "he had sent him, out of *Campania*, a Root thirty Feet in Length; which, with much Difficulty, and the Labour of some Days, was dug up from among the Stones and Rocks; and yet, after all, was not entire, but broken off." We may judge, by this single Instance, what a skilful Botanist our Author was, who could imagine, that the *Moly* described by *Theophrastus*, with the Leaf of the Sea-onion, and a round black Root, like that of the Onion, was the same with the Root sent him from *Campania*, thirty Feet long, and yet not entire, the End of it being broken off, and left among the Stones, because it could not be taken up. How did he know, that so long a Root, whose whole Length he never yet saw, was a Species of Bulbus? Nay, its Length rather proved it to be otherwise than bulbous. This Root of *Pliny*, then, agrees with the *Moly* of *Homer*, in nothing but the Difficulty of its being dug up. But this is denied by *Theophrastus* of the *Moly* of *Arcadia*, which, in other respects, agrees with that in *Homer*. *Pliny*, then, in order to make his *Campanian* Root agree with the *Moly* of *Theophrastus*, confirmed the Difficulty of its Digging, contrary to the Sense of his own Author, by the Credit of another Author. To this he adds, with relation to the same *Moly*, "The Greek Authors have described it with a yellow Flower, though *Homer* says it was white." I know not what Greek Authors he means; there is nothing like it in any of them now extant; nor do I suppose there was any such Difference in their Accounts, for some have even called wild Rue, *μῶλυ*, *Moly*, because it, in some measure, resembles the true *Moly*, in its black Root, and Milk-white Flower: So very improbable is it, that any Writer should say, that it had a yellow Flower. *Pliny* seems to have imagined thus from an imperfect Transcription of the Passage of his Author, into his *Adversaria*, where something was omitted; he had inserted what follows, *μῶλυ τὰ μὲν φύλλα ἔχει ἀγρωδὸς ὅμοια, ἄνθη λευκοῖσι ὅμοια* "Moly has Leaves like those of the Agrostis, and Flowers like those of the Leucolia:" But omitted what follows, that is, *γαλακτικῶρεα*, "Milk-white." Now, because the Greeks often call the *Viola lutea* absolutely *λευκὸν*, *Leucium*, he understood *ἄνθη λευκοῖσι ὅμοια*, to be yellow Flowers. An Author in the *Priapeia* seems to have followed *Pliny*, when he says of the *Moly*,

— de qua Flos aureus exit.

"Whence proceeds a Gold-coloured Flower." Observe how justly he has expressed that in *Homer*, of the *Moly*;

— γάλακτι ὃ ἕκλον ἔνθ'.

"A Flower like Milk" (in Whiteness). I have often diverted myself with the Debates of two very learned Botanists, who have hotly disputed, to no Purpose, whether the *μῶλυ*, *Moly*, of *Hippocrates* were the *μῶλυ*, *Moly*. The *μῶλυ*, or, as some wrote it, *μάλυα*, in *Hippocrates*, is an Head of Garlick, and has

M O M

no relation to the *Moly*. Thus we read, *Lib. 1. de Muliebr.* *μῶλυσαν (κορδὴ ἀποξέσας* "having peeled an Head of Garlick." *Galen* observed both Readings in the following Passage in his *Exegesis*, which is to be read thus, *μῶλυα (κορδὸν ἀπλὴν τὴν κεφαλὴν ἔχον, καὶ μὴ διαλελυμένην εἰς ἀγλίθας, τινὲς δὲ μάλυα*; "Garlick, which has a single Head, not divided into two Cloves; some call it *μάλυα (Malyza)*." The common Editions read corruptly, *τινὲς δὲ μῶλυ*. *Hesychius* says, *μῶλυα μονοκέφαλον (κορδὸν, τινὲς δὲ μάλυαν*. "*Molyza (μῶλυα)* is single-headed Garlick, by some called *Malyza*" (*μάλυα*). And *Psellus*, of ancient medicinal Terms, says, *μάλυα αἱ τῶν κορδῶν κεφαλαί*; "*Malyzae* are Heads of Garlick." In *Erosian*, *μῶλυξ (Molyx)*, is written for *μάλυα (Malyza)*.

From the Premises it appears, that there are two Kinds of *Moly*, and those very different; the *Cappadocian* or *Galatian*, and the *Homerican* or *Arcadian*; and here lies the Homonymy. The *Cappadocian* was the wild Rue, which was called *Moly* by the *Cappadocians* themselves; for *Dioscorides* tells us, *L. 3. C. 53.* that the Plant, which some call wild Rue, is the same, which in *Cappadocia* and *Galatia* they call *Moly*. The same Plant, he says, was called by the *Syrians*, *Besafa*, by others *Harmala*, from whence comes the *Arabic Harmol*, though applied by an *Arabian* Botanist to another *Moly*. But the *Cappadocian Moly* is expressed in *Arabic* by *Satab-bari*, that is, wild Rue. However, wild Rue, properly so called, is different from this *Moly*; tho' some have, indeed, bestowed on this latter the Appellation of wild Rue. *Avicenna*, therefore, *Lib. 4. Fen. 6. Tract. 3. C. 33.* rightly distinguishes between *Harmel*, and wild Rue; for *Harmel* is not wild Rue, but only a Species of it. The Translators, therefore, would have done better in rendering the *Arabic* Word *Harmel* into *Latin* by *Cappadocicum Moly*, the *Cappadocian Moly*, than by *Ruta sylvestris*, wild Rue. *Salmasius*, de Homonym. *Hyl. Latr.*

We learn from *Photius*, that the *Moly* was fabled to have sprung up from the Blood of a Giant, who was killed by *Circe*.

MOLYBDÆNA, in Pharmacy, is a metallic Recrement thus distinguished;

Molybdæna, & Plumbago factitia. Offic. Schrod. 460. *Molybdæna, five Plumbago*. Matth. 1349. *Plumbago*. Worm. 136. Charlt. Foss. 56. **PLUMBAGE**.

The best *Molybdæna* is like Litharge, yellow, somewhat shining, and of a pale-red under Levigation; but, boiled in Oil, takes an Ash-colour; what is Sky-colour'd, or of a Leaden-colour, is not good. It is generated in the Furnaces adapted for the refining of Gold and Silver. There is, also, a fossile Sort, which is found about *Sebastia* and *Corycum*. Generally speaking, the most valuable is what has no Resemblance of Scorix, nor is stony, but yellow and shining.

It has the Virtues of Litharge, and the Scorix of Lead; and is burnt and washed after the same manner. But the *Molybdæna* is a more proper Ingredient in lenient and sticking Plaisters, called *Lipara*, and with very good Effect; for it incarns and cicatrizes; but it is by no means adapted to enter the Composition of agglutinant and deterfive Medicines. *Dioscorides*, *Lib. 5. Cap. 100.*

Plumbage is that Recrement, which, in the Purification of Gold and Silver with Lead, being concreted and calcin'd, adheres to the Furnace. Its superior Part resembles Litharge, its inferior Ashes, and its Middle is a Substance compounded of both. It is of the same Virtues with Litharge, and somewhat cold, though, at the same time, not possess'd of an abstergent Quality. *Dale*.

MOLYBDÆNA, also, sometimes signifies black Lead, according to *Lemery*.

MOLYBDÆNA, in Botany, is a Name for the *Plumbago*; *quorundam*.

MOLYBDOEIDES, *μολυβδοειδής*. This is described as a Stone of the Colour of Lead, to which the Virtues of the Scorix of Lead are ascrib'd. *Castellus* conjectures, that it may be the same as Lead-ore.

MOLYBDOS, *μολυβδος*. Lead. See SATURNUS.

MOLYZA, *μάλυα*. An Head of Garlick, or Garlick having an Head not divisible into Cloves. *Galen. Exegesis*.

MOMISCUS, *μώμισκος*. The Part of any of the *Dentes Molares* next the Gum. The *Dentes Molares* themselves are, also, called *Momisci*.

MOMORDICA.

The Characters are;

The Flower consists of one Leaf, is of the expanded, Bell-shap'd kind, but so deeply cut, as to appear composed of five distinct Leaves: These Flowers are some male, (or barren) others female, growing upon the Tops of the Embryo, which is afterwards changed into a Fruit; which is fleshy, and sometimes more or less tapering and hollow; and, when ripe, usually bursts, and casts forth the Seeds with an Elasticity; which Seeds are wrapped up in a membranous Covering, and are, for the most part, indented on their Edges.

Boerhaave mentions five Species of this Plant; which are,

1. *Momordica*; vulgaris. See BALSAMINA.

2. *Momordica*;

2. Momordica; fructu luteo; rubescence. *H. Eyft. Aut. o. 1. f. 4. Fig. 3.*
3. Momordica; Zeylanica; pampinea fronde; fructu breviori. *T. 103. Pavel. H. Mal. 8. 18.*
4. Momordica; Zeylanica; pampinea fronde; fructu longiori. *T. 103. Pandi Pavel. H. Mal. 8. 17.*
5. Momordica; Americana; fructu reticulato; sicco. *Commel. Rar. Exot. 22. Boerb. Ind. alt. Plant.*

MONÆ, in *Paracelsus*, signifies the Nates.

MONAS, *μωας*. Unity. In Chymistry, it seems to import the Union of the Virtues of Simples, and is much the same as *Clyffus*, or *Elixir*.

MONBIN. *The Hog Plum-tree.*

The Characters are;

It hath a Rose-shaped Flower, consisting of several Leaves, which are ranged in a circular Order; from whose Cup arises the Pointal, which afterward becomes an oval, fleshy, soft Fruit, inclosing an hard Stone, in which are contained four Kernels, or Seeds.

Miller mentions but one Sort of this Tree; which is,

Monbin, Arbor, foliis Fraxini, fructu luteo racemoso. *Plum. Nov. Gen.*

This Tree is a Native of the warmest Parts of *America*, where it grows in the *Savannas*, and low marshy Places, in great Plenty. It rises to be forty or fifty Feet high, and divides into a great many crooked Branches, which are beset with winged Leaves, somewhat like those of the Ash-tree. The Flowers, which appear in the Springs, are produced in large pyramidal Bunches, at the Extremity of the Branches, which are of a white Colour, and are very sweet. These are succeeded by several yellow, oval-shaped Plums, growing in Clusters. The Wood of this Tree, being soft, is used, instead of Cork, to stop Bottles in *America*. *Miller's Dict.*

MONEDULA. *Offic. Jonf. de Avib. 26. Bellon des Oyfe. 286. Charlt. Exer. 75. Schw. A. 305. Rau Ornith. 125. Gefn de Avib. 468. Monedula five Lupus. Aldrov. Ornith. 1. 770. Will. Ornith. 25. Raii Synop. A. 40. Graculus vel Monedula. Mer. Pin. 172. THE JACKDAW.*

The Flesh of this Bird is used, and, when applied externally, dissolves Tumors, and proves beneficial in scrophulous Swellings. *Dale.*

MONEMBASIATICUM. This Word occurs in *N. Myrepus. Sect. 1. C. 467.* It is a sort of Wine, which *Fuchsius* conjectures to be the same as *Malvaticum*, *Malmsey*.

MONEMERON. The Name of a Collyrium in *Marcellus Empiricus, C. 8.* and of others in *Galen, L. 4. C. 2. de Comp. M. S. L. and Aetius, Tetrab. 2. S. 3. C. 101.* so called, because it is said to perform a Cure in one Day.

MONERES, *μονήρης*, is properly an Epithet for a Boat with a single Oar. But it is figuratively applied to a melancholy Person, who has a strong Love for Solitude.

MONOCEROS. See UNICORNU.

MONOCOLON, in *Paracelsus*, is the *Intestinum Rectum*.

MONOEMEROS. The same as MONEMEROS.

MONOMACHON. The Intestine, called otherwise CÆCUM.

MONOMELUM. The Name of a Collyrium, described by *Aetius, Tetrab. 2. Serm. 3. C. 101.*

MONONYCHA. The same as MENYCHA; which see.

MONOPAGIA, or MONOPEGIA. A Pain in the Head, affecting only one Point. *Castellus*, from *Velesens de Taranta*, explains it an *Hemicrania*.

MONOPHYLLON. A Name for the *Smilax*; *unifolia*; *humillima*.

MONORCHIS, *μόνορχις*. A Person who has only one Testicle, is thus called.

MONOSITIA, *μονοσιτία*, from *μόνος*, single, and *σίτη*, Meat. The eating of one Meal a Day only.

MONOSPERMALTHÆA. The Name of a Genus of Plants, established by *M. Danty d'Isnard*, in the Memoires of the Academy of Sciences for 1721. Of this he mentions two Species; which are,

1. Monospermalthæa arborescens; villosa, folio majore. *Betonica arborescens, foliis amphoribus, ex Insula Barbadosi, flore luteo minimo. Raii Hist. 3. 297.*

2. Monospermalthæa arborescens, villosa; folio minore. *Betonica arborescens, Madraspatana, villosis foliis, profunde venosis. Pluk. Phytot. Tab. 150 Fig. 5. & Alm. 67. Adde floribus luteis, summo caule in brevioris speciem glomeratis. Pluk. Mant. 31. Raii Hist. 3. 297. Num. 6.*

MONS VENERIS. The superior external Part of the Female *Pudendum*, cover'd with Hair.

MONTIA.

The Characters are;

It hath a Funnel shaped Flower, consisting of one Leaf, whose under Part is tubulous, but the upper Part is expanded, and cut into five Parts; the Fruit, which succeeds the Flower, is a bicapsular, flat Seed-vessel, which is surrounded on the Borders with a Plume, which expands like Rays.

Miller mentions but one Sort of this Plant; which is,

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Montia arborescens, abutili folio serrato, fructu racemoso. *Houft.*

This Plant was discovered by the late Dr. *William Houftoun*, near old *La Vera Cruz*, in *New Spain*, who gave this Name to it, in Honour to Dr. *Monti*, Professor of Botany at *Bononia*.

It grows about sixteen or eighteen Feet high, and hath a woody Stem, which divides into several Branches; these are beset with Leaves, somewhat like those of the yellow Mallow, which are five Inches long, and four broad, ending in a Point; these are sawed round the Edges, and have a Down on their under Sides. The Flowers are of a greenish-yellow Colour, and are produced in Bunches. The Season of its flowering is in *January*, in the native Place of its Growth, and the Seeds are ripe in *March*. *Miller's Dictionary.*

MONTIFRINGILLA. A Bird, called the Mountain Chatfinch.

MONYCHA *Animalia*, from *μῦς*, single, and *ὄνυξ*, an Hoof. Animals, whose Feet are solid, and undivided.

MORA, in *Paracelsus*, is mentioned as a Symptom of the Venereal Disease. It seems to be a Callosity or Hardness of the Skin.

MORBILLI. The Measles. See VARIOLÆ. This Disease, says *Sydenham*, arises in *January*, and increases daily till the Approach of the vernal Equinox; after which Time it abates in the same gradual manner, and disappears in *July*. It principally attacks Children, especially those under the same Roof with one affected with it. It is preceded with a Chills and Shivering, and an Inequality of Heat and Cold, which succeed alternately, during the first Day; the second Day, these terminate in a perfect Fever, attended with vehement Sickness; Thirst; Loss of Appetite; the Tongue white, but not dry; a slight Cough; Heaviness of the Head and Eyes, with continual Drowsiness; an Humour, also, generally distils from the Nose and Eyes, and this Effusion of Tears is a certain Sign of the Approach of the Measles. To which must be added, as no less certain, That though this Disease principally shews itself in the Face by a kind of Eruptions, yet, instead of these, large red Spots, not rising above the Surface of the Skin, rather appear in the Breast; the Patient sneezes, as if he had taken Cold; the Eye-lids swell a little before the Eruption; he vomits; but is more frequently affected with a Looseness, attended with greenish Stools; but this happens generally in Children, during Dentition, who are, also, more fretful in this Distemper than ordinary. The Symptoms usually grow more violent till the fourth Day, at which time, generally, little red Spots, like Flea-bites, begin to appear in the Forehead, and other Parts of the Face, which, being increased in Number and Bigness, run together, and form large red Spots in the Face, of different Figures; but sometimes the Eruption is deferred till the fifth Day. These red Spots are composed of small, red Pimples, seated near each other, and rising a little higher than the Surface of the Skin, so that they may be felt upon pressing them lightly with the Finger, though they can scarcely be seen. From the Face, where only they first appear, these Spots extend, by degrees, to the Breast, Belly, Thighs, and Legs; but they affect the Trunk and Limbs with Redness only, without perceptibly rising above the Skin.

The Symptoms do not abate here, upon the Eruption, as the Small-pox; yet I never found the Vomiting continue afterwards, but the Cough and Fever grow more violent; the Difficulty of Breathing, the Weakness of, and Diffusion upon, the Eyes, constant Drowsiness, and Loss of Appetite, persisting in their former State. On the sixth Day, or thereabouts, the Eruptions begin to dry, and the Cuticle separates, whence the Forehead and Face grow rough: But, in the other Parts of the Body, the Spots appear very large and red. About the eighth Day, those on the Face vanish, and very few appear in the rest of the Body; but on the ninth Day they disappear entirely; and the Face, Limbs, and sometimes the whole Body, seem as if they were sprinkled over with Bran, the Particles of the divided Skin being raised a little, and scarce cohering, so that, as the Disease is going off, they fall from all Parts in Scales.

The Measles, therefore, generally disappear on the eighth Day, when the Vulgar, deceived by the Term of the Duration of the Small-pox, affirm, that the Eruptions are struck in; though, in reality, they have run through the Course assigned them by Nature; and they suspect, that the Symptoms, which succeed upon their going off, are occasioned by their striking in too soon. For it is observable, that the Fever, and Difficulty of Breathing, increase at this time, and the Cough becomes more troublesome, so that the Patient can get no Rest in the Day, and very little in the Night. Children are subject to these Evils, which come on at the Declension of the Disease, especially if an heating Regimen, or hot Medicines, have been used to promote the Eruption, whence arises a Pneumony, which destroys greater Numbers than the Small-pox, or any of its concomitant Symptoms; yet, notwithstanding, if this Disease be skillfully treated, it is not at all dangerous. These bad Symptoms are, likewise, often followed by a Looseness, which either immediately suc-

ceeds the Disease, or continues several Weeks after the Disease, and all its Symptoms, are gone off, with great Danger to the Patient, on account of the continual Waste of Spirits hence arising. Sometimes, also, after using an exceeding hot Regimen, the Eruptions turn livid, and then black; but this happens only in Adults, who are irrecoverably lost, upon the first Appearance of the Blackness, unless they be immediately relieved by Bleeding, or a cooling Regimen.

As the Measles, in their Nature, nearly resemble the Small-pox, so do they, likewise, agree pretty much therewith in the Method of Cure which they require; hot Medicines, and an hot Regimen, are very dangerous; though they are frequently used by unskilful Nurses, to drive the Disease from the Heart. The following Method succeeded best with me:

I confined the Patient to his Bed for only two or three Days after the Eruption, that the Blood might gently breathe out the inflamed and noxious Particles, that are easily separable through the Pores, in a manner suitable to the Nature of the Disease; and allowed no more Cloaths, nor a larger Fire, than he accustomed himself to, when in Health. I forbade all Flesh-meats, and permitted Water-gruel, Barley-broth, and the like, and sometimes a roasted Apple, for Diet; and, for Drink, either Small-beer, or Milk boiled with thrice its Quantity of Water. To relieve the Cough, which almost always attends this Disease, I ordered a Draught of some pectoral Decoction to be taken between whiles, with a proper Linctus. But I principally observ'd to give Diacodium every Night, throughout the Distemper. Thus,

Take of the pectoral Decoction, a Pint and an half; Syrup of Violets, and Maidenhair, each an Ounce and an half: Mix them together for an Apozem, to be taken in the Quantity of three or four Ounces, three or four times a Day.

Take of Oil of sweet Almonds, two Ounces; Syrup of Violets, and Maidenhair, each an Ounce; fine Sugar, enough to make them into a Linctus: To be taken often in a small Quantity, especially when the Cough is troublesome.

Take of black Cherry-water, three Ounces; Syrup of white Poppies, an Ounce: Mix them together for a Draught, to be taken every Night.

In Children, the Dose of the Pectorals and Opiate must be diminished in proportion to their Age.

This Method seldom fails of curing, besides being preventive of every other Symptom, which is not the necessary and unavoidable Attendant of the Disease; the Cough is the most troublesome one, which, however, is nothing dangerous, till the Disease be gone off; after which, if it should continue a Week or two, it may be easily cured by the Use of the open Air, along with proper Pectorals; and indeed it generally abates by degrees spontaneously, and at length ceases.

But if, by using Cardiacs, and too hot a Regimen, after the Cessation of the Disease, the Patient's Life be endangered (which is a very common Case) by the violent Fever, Difficulty of Breathing, and other Symptoms that usually afflict such as have a Peripneumony, I have, with great Success, ordered even the tenderest Infants to be blooded in the Arm, in such Quantity as their Age and Strength indicated. Sometimes, also, when the Disease has been urgent, I have not been afraid to repeat the Operation; and thus have I preserved many Children in imminent Death: These Symptoms arise in Children upon the Cessation of the Measles, and prove so fatal, that they may justly be esteem'd the principal Ministers of Death, destroying greater Numbers than the Small pox; nor have I hitherto discovered any other certain Method of conquering them. Bleeding, also, cures the Looseness, which, as we said, succeeds the Measles; for, as it arises from the Effluvia of the inflamed Blood flowing into the Intestines, (as is likewise usual in the Pleurisy, Peripneumony, and other Diseases caused by Inflammation) and irritating them to discharge their Contents, this Remedy alone will relieve, as it makes a Revulsion of the sharp Humours; and, likewise, reduces the Blood to a due Temper.

Nor need any one be surpris'd at my bleeding young Children, since, as far as I have hitherto been able to observe, it may be as safely performed in them, as in Adults. It is indeed so necessary in the Fever above-mentioned, and in some other Disorders, which Children are subject to, that there is no curing them without it. For Instance, I now are Children to be believ'd without Bleeding, during Dentition, in the Convulsions happening to them in the ninth or tenth Month, accompanied with a Swelling and Pain in the Gums, whence the Nerves are compressed and irritated, and the Fits, also, proceed? In this Case, Bleeding alone is to be preferred to all the celebrated Specifics yet known; some of which prove detrimental by their adventitious Heat, and, while they are supposed to cure the Disorder, increase it by their manifest Heat, and destroy the Patient: Not to mention, at present, the great Relief which Bleeding affords

in the Chin-cough in Children, in which it far exceeds all Kinds of Pectorals whatever.

What has been said of the Cure of those Symptoms succeeding the Measles, after its Disappearance, may sometimes, also, hold good, when the Disease is at the Height, provided the Symptoms be occasioned by an artificial Heat, if the Expectation may be allowed me.

In *January* 1674. says the same Author, there arose a different Species of the Measles from that which began in the same Month in 1670. and yet it proved as epidemic, but not equally regular, nor so constantly kept its Train of Symptoms; for sometimes the Eruptions came out earlier, and sometimes later, whereas in the other Kind they always appeared on the fourth Day, inclusive, from the Beginning of the Illness. Besides, the Eruptions here appeared first on the Shoulders, and other Parts of the Trunk; but, in the other Species, they first shewed themselves in the Face, and, by degrees, spread over the rest of the Body. In this Species, likewise, I rarely found, that the Skin peeled off, like branny Scales, upon the Disappearance of the Eruptions, which happened as certainly, after the other Kind, as after a scarlet Fever. Moreover, this Sort proved more destructive, when unskilfully treated, than the former; for the Fever, and Difficulty of Breathing, which used to come at the Close of the Distemper, were more violent here, and resembled a Peripneumony more. But though this Species of the Measles was anomalous and irregular, with respect to the Symptoms just mentioned; it nevertheless answered, in general, to the Description already given, and, consequently, the Method of Cure differed little.

MORBUS. A Disease.

MORBUS ATTONITUS. The Epilepsy.

MORBUS CADUCUS, or COMITIALIS, is the Epilepsy, or falling Sickness; called by the latter Name, because People were seized with it suddenly, in the *Comitia*, or public Assemblies of the *Romans*. See *EPILEPSIA*.

MORBUS GALLICUS, HISPANICUS, INDICUS, or NEAPOLITANUS. The Venereal Disease.

MORBUS HERCULEUS. The Epilepsy.

MORBUS NIGER, or the Black Disease of *Hippocrates*. See *MELAS*.

As in an *Hæmoptysis*, a frothy, thin, and florid Blood, is now-and-then expectorated in Coughing, so, in the Black Disease of *Hippocrates*, a concremented Blood, of a blackish-red Colour, and mixed with a large Quantity of insipid, acid, or viscid Phlegm, is thrown up by Vomit.

This Disorder is generally preceded by a pungent and tense Pain of both Hypochondria; and the Eruption, or immediate Appearance, of the Disease is almost always accompanied with an Anxiety, and compressive Pain, of the *Præcordia*, and a Constriction of some one of the Sides: Besides, no Discharge of Blood is so readily, or so often, accompanied with Faintings, as the Black Disease of *Hippocrates*, especially when the Blood evacuated is fetid and corrupted.

The Seat of this Disease, and the Source from which the Blood is discharged, is in the Stomach, though, in consequence of the Consent of the Parts, the Spleen is affected; and must, therefore, be consider'd as another Seat of the Cause of the Disorder, as is obvious from dissecting the Bodies of those who die of this Disease: Thus, in such Patients, the Spleen is almost always found tumid, infarcted, and sometimes indurated. And as for the Heart, which is every-where furnished with a large Number of Vessels, it is observable, that, when the arterial and venous *Vasa brevia*, especially those distributed through the superior, Left, and more slender Part of the Stomach, and there covered with an highly tender Membrane, are open'd or broken, they discharge that Blood, which, during Life, was thrown up by Vomits; for which Reason they are found varicose, and distended with black Blood, the Substance of the Stomach being, at the same time, corrupted in that Part. Thus *Riolanus*, in *Anthropolog. Lib. 2. Cap. 17.* informs us, that, in a Discharge of Blood by Vomit and Stool, he found one of these *Vasa brevia* as broad as a Person's little Finger. Other Instances of the same Kind are found in *Columbus, Rerum Anatomic. Lib. 15.* *Wederus*, in *Physiolog. reformat. Platerus, Observ. Lib. 2. and Bonetus, Medicin. Septentrional. Lib. 3. Sect. 5. Cap. 4.*

'Tis not, however, improbable, tho' it rarely happens, that such a Vomiting of Blood may proceed from other Vessels of the Stomach, if they are corroded by acid and corrosive Juices, or by Poisons. That this has happen'd, we may conclude, if an acute Pain of the Stomach has preceded, and if the Blood, thrown up by Vomit, is black, acid, stupefies the Teeth, scorches the Fauces and Mouth, and, when thrown upon the Floor, rises in an Ebullition, according to the Description given by *Hippocrates*, in *Lib. 2. de Morbis, Sect. 17.*

As Persons of slender and tender Constitutions are, of all others, most subject to internal Hæmorrhages, so 'tis certain from Experience, that, in this Disorder, there happens an Hæmorrhage of the Stomach, especially if the Patients are of so delicate a Turn of Mind, as to be easily susceptible of Commotions; for Bodies

Bodies of this Kind are generally furnished with small Vessels, whose Substance is tender, and, consequently, easily capable both of Distention and Rupture. Hence proceeds the Effusion of Blood.

Young Women are observed to be principally subject to this Disorder, especially such of them as are costive about the time of Puberty, when the Menfes first begin to appear, and when they are afterwards suppress'd, or too scantily discharg'd; for, when they are thrown into Commotions by Anger or Frights, whilst, in the mean time, the inferior Parts are refrigerated, or when the Physician, by Vomits, preposterously endeavours to remove the Symptoms arising from the Regurgitation of the Blood from the Uterus to the Stomach, a Vomiting of Blood is easily brought on.

In like manner, after an intermittent Fever, unskillfully treated, and too soon stop'd, I have known a Suppression of the Menfes happen in Women of a tender and delicate Texture; and if the Physician, by strong and hot Emmenagogues, endeavours to restore this Evacuation, he will produce terrible Consequences; and I myself have twice had an Opportunity of observing a mortal Vomiting of Blood brought on by this means.

I have, also, observed, that some old Women, who, when their Menfes have stop'd, and they themselves been waisted with violent and long-protracted Grief, have, for a considerable time, complain'd of pressory Pains in the Left Hypochondrium, accompany'd with Want of Appetite and Weakness; after which, a sudden and impetuous Vomiting of Blood prov'd mortal.

'Tis, also, certain from Experience, that pregnant Women, when they are plethoric, and neglect Venesection, are seiz'd with a Vomiting of Blood, especially, when, about the Middle of their Gestation, their Stomachs have been frequently thrown into violent Commotions. But because in this Case the Blood they vomit is discharg'd thin, and in a small Quantity, it seems more probable, that it comes from the Corrugations of the small Arteries in the Oesophagus and Fauces, than from the Vessels of the Stomach itself; for which Reason it is less dangerous.

On the contrary, in difficult Labours arising from an unnatural Situation of the Fœtus, I have sometimes observ'd a copious and mortal Vomiting of Blood. I have, also, observ'd Women in Labour seiz'd with a Vomiting of Blood, which did not prove mortal; but these Patients vomited but a small Quantity of Blood, were plethoric, and had neglected Venesection in the latter Part of their Gestation.

There are, also, some Men of valetudinary Constitutions, and subject to hæmorrhoidal Discharges, who, when this Evacuation is diminish'd, or totally suppress'd, complain of Anxieties of the Præcordia, Cardialgias, cold Sweats, alternate Heats and Colds. If such Patients evacuate by Stool, and vomit a feculent Blood of a cadaverous Smell, and if the Paroxysm recurs frequently, they generally, soon after, die of a Deliquium.

Of a less dangerous Nature was that Epidemical Vomiting of Blood, which lately happen'd at *Martinsburg*; for, tho' some Quarts of a dark-colour'd blackish Blood were vomited up by the Patients, who were principally Adults among the common People, yet the Strength was only impair'd, but not the Life destroy'd. At the same time there happen'd, especially in plethoric Persons, Spitings of Blood, which were, also, removed without any great Difficulty; for, about the Equinoxes, in consequence of the various and sudden Changes of the Atmosphere from Hot to Cold, and from Cold to Hot, the free and equable Circulation of the Blood is disturb'd; so that, especially when it is redundant, it rushes impetuously to some particular Part, and makes an Eruption, which ceases, when a large Quantity is discharg'd.

With respect to the Progress of the Disease, we must observe, that the spasmodic and oppressive Pain of the Stomach, which is generally accompany'd with an Heat, and Vomiting of Blood, is not to be taken for an Inflammation of the Stomach; for an Inflammation of this Part is always accompany'd with a Coldness of the Extremities, a violent Heat about the Præcordia, Thirst, a Fever, a contracted, weak, and quick Pulse, which Symptoms do not attend a Vomiting of Blood; nor, in an Inflammation of the Stomach, can the Patient bear warm Liquors, and the external Application of hot Tiles and Cloths; which, however, afford singular Relief in a Vomiting of Blood.

But, as all Hæmorrhages easily return sometimes a Week, sometimes some Months, and sometimes some Years after, so the same happens in Hæmorrhages of the Stomach; for since, in consequence of the Effusion, a Weakness of the Parts is induc'd, they are afterwards less capable of resisting the Blood, copiously and briskly convey'd to them. Hence this Blood remains its former Course, stops in these Parts, and, at last, breaking the Vessels, discharges itself. Besides, 'tis sometimes observable, that Nature, in Hæmorrhages, generally resumes the same Parts she had formerly evacuated herself by; and that, especially in Hæmorrhages of the Nose, there is almost always a Dropping of Blood from that Nostril whence the Hæmorrhage was first made.

The Danger of the Morbus Niger is not equally great in all Patients, though, at the same time, there is hardly any Species of Hæmorrhages of a more dangerous Nature. There is not, however, so great Danger to be dreaded, if a Fever is absent,

and if the Disorder arises from a Plethora, produced by a Suppression of the natural Evacuations. On the contrary, if a Fever is present; if the Blood vomited is corrupted, fetid, and black; if the Disease arises from a preternaturally large and corrupted Spleen, or an indurated Liver; and, lastly, if the Disease is accompany'd with Deliquiums, the Danger is great, and the Symptoms prognosticate a speedy Death, as is observed by *Hippocrates*, in *Aphor. 37. Sect. 6.* and in his Prognostics.

The Danger is far greater, and more certain, if, as it sometimes happens, the Vomiting of Blood is accompany'd with Discharges of black, Pitch-like, and fetid Matter by Stool; for this Circumstance generally denotes speedy Death, according to *Hippocrates*, who gave the Name of the *Black Disease* to this Disorder.

This Discharge of bloody Matter, both by Vomit and Stool, does not proceed immediately from the Vessels of the Stomach, nor from the Blood extravasated in the Cavity of the Stomach, but rather from some of the other Viscera, or small Intestines, especially the Ileum, and a Rupture of the mesaraic Vessels, which are only cover'd with a weak and slender Coat; for, in Patients, who dy'd of this Disorder, I have often found these Vessels distended with black Blood, and the Stomach filled with a similar bloody Matter.

The Patients subject to these terrible Discharges of black Matter by Stool, whether with or without a Vomiting of Blood, are either hypochondriac, or disposed to hæmorrhoidal Discharges; for, in such Patients, the Blood is not duly, but in a faint and languid manner, convey'd thro' the mesaraic Veins. Hence arise painful Distentions and Spasms of the Vessels distributed under the Membranes, and, at last, painful Congestions and Effusions of the Blood. By these Marks the Morbus Niger may be excellently distinguished from the hæmorrhoidal Discharge; which, tho' its Matter is sometimes blackish, is by no means accompany'd with such intense spasmodic Pains of the Intestines; and is so far from threatening Death, that it rather affords great Relief.

This blackish Matter, discharg'd by Stool, is generally highly fetid, because the discharg'd Blood, being, as it were, fermented with the Fæces in the Cavity of the Intestines, in consequence of the Exaltation of its sulphureous alkaline Principle, degenerates into an highly fetid Putrefaction. And, as this fetid Putrefaction is highly injurious to the nervous Fluid, hence it soon impairs the Strength, and destroys the vital Motions, of the Body; so that preternatural Loss of Strength, with which this Disease is always accompany'd, is not to be accounted for from the Nature and excessive Effusion of the Blood, but rather from its putrid Corruption.

THE CURE.

In the Cure of this terrible Disorder, the Physician ought to have a due Regard to the Diversity of Constitutions, Causes, and Times; for one Method of Procedure is requisite under the Paroxysm, and another, when it is remov'd. One Set of Measures are expedient, when the Disorder arises only from a Redundance and Orgasm of the Blood, and the Excretion is, as it were, critical; and another, when it arises from Pains and Spasms forcing the Blood to the internal Parts; and still another, when it arises from a Corruption or Obstruction of any of the Viscera, from an external Cause, from Poison, or any other corrosive Matter.

Under the Paroxysm itself, if the Body is plethoric, and the Motion of the Blood preternaturally determined from the external to the internal Parts, Venesection in the Arm is highly beneficial. But the Quantity of the Blood to be taken away, and the proper Times for repeating the Venesection, are to be determined by a cautious and skilful Physician, according to the Repletion of the Vessels, the Constitution, Strength, and Age of the Patient.

When the Blood is in too violent a Commotion and Orgasm, and the Pulse impetuous and strong, Spring-water, or Plantain-water, in a Pint of which a Dram of pure Nitre, and half an Ounce of the Syrup of wild Poppies, have been dissolv'd, gradually and slowly drank, are highly beneficial; for this refrigerating and cooling Potion, at once, corrects the Acrimony of the Humours, checks the elastic Effervescence of the sulphureous Parts in the Vessels, and so strengthens and corroborates the relaxed Orifices of the open'd Vessels, that they afterwards come more easily into Contact, and are consolidated.

Besides, in this Disorder, Emulsions are always beneficial, especially when the Region of the Præcordia, principally about the Left Side, is afflicted with pungent and vellicating Pains, and spasmodic Strictures, and when the Patient is rack'd with an intolerable Thirst and Heat. These Emulsions may be prepared of the Four cold Seeds, and Poppy-seeds, with the antispasmodic Waters, prepared of the Flowers of the Lime-tree, Lilies of the Valley, Primroses, *Egyptian* Thorn, wild Poppy, Piony, and black Cherries, with the Addition of a small Quantity of Nitre, and a sufficient Quantity of the Syrup of white Poppies.

Besides, in order to relax the spasmodic Stricture of the Intestines, and divert the impetuous Afflux of the Humours to the Part.

Part affected, Clysters of the emollient and demulcent Kind are highly beneficial, but they must be impregnated with some gently stimulating Ingredient, corrected with Nitre, and frequently injected.

Among the external Remedies appropriated to this Disorder, we must, also, reckon those which exert their Influence by checking the Spasms, corroborating the Stomach, and discharging the peccant Matter. For answering this Intention, I have found nothing more efficacious than Oil of Camphire, prepared thus :

Dissolve one Dram of Camphire in one Ounce of the Oil of sweet Almonds ; and then drop into it twenty Drops of the Oil of Rose-wood.

The whole Region of the Præcordia, and Left Hypochondrium, are to be anointed with this Oil ; and afterwards a Bag, filled with the Flowers of *Roman* Chamomile and Elder, the Herbs Mint and Wormwood, and boiled in Vinegar of Roses, or red Wine, is to be applied warm.

But if a large Quantity of Blood is already evacuated, and the Strength considerably impaired, Ligatures are to be made on the Joints, in order to check the violent Effusion of the Blood ; and these Ligatures are afterwards to be cautiously removed. I know it has, also, been prescribed with Succets, to immerse the Hands and Feet, to the Wrists and Ancles, in cold Water, that the Cold may the longer detain the Blood in the minute Vessels, and its Return to the Heart, by this means, be somewhat retarded.

Out of the Paroxysm, in order to prevent the Return of the Disorder, it is proper to exhibit half a Dram of the Powder of Rhubarb, either by itself, or with Crabs-eyes ; or twelve Grains of the Troches of Amber, and half a Grain of Camphire, taken twice every Week, before going to Bed, in a Draught of Spring-water : For Rhubarb is a kind of Specific for gradually removing Obstructions. In this Disorder great Service is, also, done by Infusions of Paul's Betony, Knot-grass, the Tops of Yarrow, Liquorice-root, and Fennel-seeds ; some Cups of which must be drank daily. For ordinary Drink, the Patient may use pure and light Spring-water, in which Iron has been extinguish'd ; or he may, also, use acidulated Whey.

This Disorder is to be treated in a particular manner, if it arises from a Suppression or Obstruction of the Menstrues ; for in this Case a Vein is to be opened in the Foot, and the Body render'd frequently soluble by Clysters prepared of emmenagogue Ingredients, such as Mugwort, Penny-royal, Wall-flowers, Bay and Juniper-berries ; or temperate Emmenagogues, of the same Nature, may, also, be, at the same time, exhibited in Decoctions or Infusions.

Another Method of Cure is, also, requisite, when the Vessels of the Stomach, corroded by acid or acrid Liquors, discharge their Contents, and produce this Vomiting of Blood. In this Case the earthy and alkaline Powders are of singular Efficacy in correcting the Acrimony, and obtunding the corrosive Quality, of the Humours ; and, for consolidating the ruptured Vessels, Milk, boiled with Starch, is a Medicine of all others the most efficacious.

In all Hemorrhages of the Stomach, produced by whatever Causes, we are not, without the greatest Caution, to use Opiates and Narcotics, because they augment the Loss of Strength with which this Disease is always attended. We are, also, carefully to abstain from strong, styptic, astringent, and vitriolic Medicines ; for, by means of these, the Eruption of the Blood is, indeed, stopt ; but the Blood, stagnating in the Veins, becomes putrefied, and a violent Inflammation, with a Sphacelus, is to be dreaded. Or, at best, if the Body is cachectic, the Disorder is easily converted to a Dropsy. When the Vomiting of Blood is remov'd, the Patient is afterwards carefully to abstain from Emetics, and Preparations of Aloes, by which an Orgasm, an immoderate Motion, and a Congestion of the Blood to the Stomach, is brought on, and the Disorder easily excited afresh. *Hippocrates* justly advises, that oleous and pinguious Substances are to be avoided ; to which we may add, also, sweet Substances ; for though these are excellent for seasoning Aliments, yet they favour the Generation and Return of this Disorder, because, by too much relaxing the dilacerated Vessels, they rather invite than prevent an Afflux of the Blood.

Hippocrates, in *Lib. 2. de Morbis, Sect. 5.* has given the following Directions with respect to the Cure of the Black Disease :
 “ In this Disorder, says he, purgative Medicines are to be frequently exhibited ; as, also, Whey, and Milk, if they can be had. The Patient is to abstain from sweet, oleous, and pinguious Substances ; but is rather to use such as are cold and purgative, unless he is too weak. Blood is to be taken from his Arm. If he is costive, let his Body be rendered soluble, by an emollient Clyster. Let him abstain from Venery and Surfeits ; neither let him walk, nor exercise himself too much. Let him not drink hot Liquors, nor eat acrid and saline Substances : And, if he observes these Measures, he will, in Pro-
 “ cess of Time, get free from the Disorder.”

OBSERVATION I.

A certain young Man, having for a long time laboured under a Quartan Fever, and being, at last, preposterously cured by an Empiric, contracted a bad Habit of Body, a livid Complexion, a certain Tumor about his Eye-lids, and a continual Languor of Strength ; besides, he frequently complained, especially after the Use of flatulent Substances, or after any Commotion of Mind, of a Pain of his Left Side, a Costiveness, and Tension of the Intestines. At last, when, walking on Foot for some Miles, he had spent himself pretty much, and had some Quarrels with his Companions, he was suddenly seized with a copious Vomiting of black Blood, which frequently returned. His Excrements were, at the same time, black as Pitch, and highly fetid. In this Condition the Patient frequently fell into Deliquiums, when he raised up his Body, and, in the Space of twenty-four Hours, died. Upon dissecting his Body, next Day, the By-standers were not able to endure the highly fetid Smell. The Vasa brevia were black, and ruptured ; and both in the Cavity of the Stomach, and in the Ilium, there was a black fetid Sordes, and its Vessels were, also, black. The Liver was somewhat harder than in a natural State ; but the Spleen was so hard, as almost to resemble a Cartilage ; and its exterior Substance, which was of a whitish Colour, could hardly be divided with a sharp Knife ; but the little of the internal Part, which remained soft, was full of black Blood.

OBSERVATION II.

Being called to a Gentlewoman of a delicate and tender Constitution, seized with a violent Vomiting of Blood, her Husband shew'd me two Basons full of Sordes, consisting of con-
 creted Blood and Phlegm, which she had vomited up. Her Pulse was weak, and her Strength so much impaired, that, when she raised her Body, she fell into a Deliquium. For this Reason I affirmed her Case was dangerous. I exhibited Analeptics and Corroboratives ; but next Day, after vomiting some Matter like Washings of Flesh, intermixed with small Grumes of dark-colour'd Blood, she died calmly. Upon inquiring into the Cause of her Disorder, I found, that after Child-birth she was seized with an anomalous Tertian Fever, then raging ; that this Fever, after five Paroxysms, was removed by a neighbouring Physician ; but that, for three Months after, her Menstrues were stopt, which Circumstance brought on a violent Pain of her Left Hypochondrium ; that her Mother, being alarm'd at this, implored the Assistance of another Physician, who gave her a Medicine, which, to me, seemed to be Elixir Proprietatis without any Acid, and with the Essence of Zedoary, and Amber : Of this she was daily to take fifty Drops, in old and generous *Rhenish* Wine, using for common Drink well-hopt Malt Liquor. But hardly were three Weeks expired, till she fell into the *Morbus Niger*, which put an End to her Life.

OBSERVATION III.

A Woman, of about thirty Years of Age, during the Discharge of her Menstrues, was terribly frightened ; and, whilst she was yet trembling, took a large Draught of cold Water ; by which means she was seized with a Trembling of the Joints, and a Want of Appetite ; at the next Return of her menstrual Period, they, indeed, flowed, but in too small a Quantity ; and she was afflicted with a violent Anxiety of the Præcordia, a Nausea, a Vomiting, a Coldness of the Extremities, and a Redness of the Face. On the third Month all the former Symptoms returned, accompanied, for three Days, with copious Vomiting of Blood, which greatly impaired her Strength. *Frederic Hoffman.*

MORBUS REGIUS, is the Jaundice : But some Authors call the King's Evil by this Name.

MORBUS SACER. The Epilepsy.

MORDEHI. The Inhabitants of the *East-Indies* are frequently subject to a Disease, by them called *Mordehi*, which is no more than a disordered Stomach. The perpetual Heat, the copious Sweats excited by it, and the supervening Cold, very much weaken the Stomach. Now, if the Inhabitants should either eat or drink too liberally, especially at Night, the Concoction of their Aliments must, of course, be unduly carried on ; for which Reason Diarrheas are not only very frequent, but, also, with great Difficulty cured among them. *F. Hoffman, de Morbis Endemiis.*

MORDEXYN. At *Goa*, the principal Colony of the *Portuguese*, in the *Indies*, the Inhabitants are much subject to a Disorder called *Mordexyn*, which seizes the Patient suddenly and unexpectedly ; is attended with a Nausea, and continual Vomiting ; and often proves fatal. *Frederic Hoffman, de Morbis Endemiis.*

MORDILAPIDES. Small Fishes, which are frequently found under Stones ; I take them to be Loaches.

MORETARIUM. The same as *MORTARINUS*.

MORETUS. A sort of cordial Julap, thus called from the Syrup of Mulberries, which should be an Ingredient in it.

MORINA, or *MORLUA*. The Cod-fish. See *ASELLUS*.

MORIA, *μωρία*. The same as *MOROSIS*.

MORINA.

The Characters are;

It hath a tubulous anomalous personated Flower, consisting of one Leaf, which is divided into two Lips: The upper Lip is, again, divided into two Parts; but the under Lip is divided into three. From the Flower-cup, which is, for the most part, bifid, arises the Pointal, fixed like a Nail in the hinder Part of the Flower; but is barren, for the Flower-cup rests on the Embryo, and is surrounded by another, as a Sheath, in which are many roundish and angular Seeds.

Miller mentions one Sort of this Plant; which is, Morina Orientalis, Carlinæ folio. Tourn. Cor.

This Plant was discovered by Tournefort, in his Travels in the Levant, who gave it this Name in Honour to Dr. Morin, a Physician at Paris. Miller's Dictionary, Vol. 2.

It is cordial, cephalic, and stomachic; good for resisting the Influence of bad Air, and to excite the Transpiration of peccant Humours, being taken in Infusion or Conserve. Lemery des Drogues.

MORINGA Lentisci Folio, Fructu magno anguloso, in quo Semina Ervi. J. B. Arbor, exotica Lentisci Folio. C. B. Moringa. Ferrar. Flor. Park. Acoft. Modringou. H. M.

It is a Tree growing in Malabar, and other Countries of the East-Indies, about ten Yards in Height, and in Bigness, as much as a Man can fathom; it is cultivated in Gardens and Orchards, only for the sake of its Fruit, which, as Acofta says, is a Foot in Length, of the Thickness of a Radish, and remarkable for its eight Corners, and much valued for its delicious Taste.

Of the Leaves, Roots, Bark, and Fruit of this Tree, they prepare antispasmodic Pills. The Root of the Tree, as Acofta tells us, supplies the Place of the Unicorn's Horn, and the Bezoar-stone; and is the true Theriaca, which the Malabarians use as an Alexipharmic against all Sorts of Poison, particularly the Bites of those most venomous Serpents, commonly called Cobras de Capellas, and other poisonous Insects and Animals, taking it inwardly, and externally applying it; the mere Juice of the Bark, mixed with Water and Garlick, drives these Serpents from their Houses. Acofta found the Root to be of singular Efficacy in the Cholera Morbus. The Juice of the Leaves, mixed with Pepper, is instilled into the Eyes for the Verrigo; and, with an Addition of Ginger, it removes a Fever. The Root is much in Request with those who labour under an Elephantiasis; many of whom, they say, have been cured by the continued Use of it. Acofta. Used as a Pessary, it procures Abortion. H. M.

The Bark, bruised in Water of Rice, is proper for an Oedema, and, with an Addition of Cumin, for the Tooth-ach, and the poisonous Bites of Dormice; the Juice, taken up the Nostrils, is good for a Mania; and the same, drank, cures racking Pains of the Joints, proceeding from a Cold; the Juice of the Leaves discusses Venereal Tumors, and expels Worms in the Feet, and such as are generated in Ulcers. H. M. Raii Hist. Plant.

MORMYROS, μормύρος. A Sort of Sea Fish, mentioned by Aldrovandus.

MORO. An Abscess of the Flesh, resembling a Mulberry. Rulandus.

MOROCHTHUS, μόροχθος.

Lapis Morochthus. Offic. Boet. 411. De Lact. 140. Matth. 1385. Calc. Mus. 275. Morochthus aliis Leucogea, Leucophragis, Galaxius, Graphida, Galactites. Worm. 71. Charlt. Foss. 30. Morochthus. Aldrov. Mus. Metall. 668. Agric. 606. WHITE MARKING-STONE.

The Stone Morochthus, which some call Galaxius, or Leucographis, is produced in Egypt, and is used by the Fullers in whitening their Linen, as being of a soft Substance, and easily diluted. It is supposed to be of an emplastick Quality, and good for Spitting of Blood, the Coeliac Passion, and Pains of the Bladder, being taken in Water, as also for uterine Fluxes, being taken in like manner, or applied in a Pessary. It is likewise an Ingredient in Collyria, or ophthalmic Medicines of a soft Consistence; for it fills up a Coeloma, and represses Defluxions: Made into a Cerate, it cicatrizes such Ulcers as happen in the tender and soft Parts of the Body. Dioscorides, Lib. 5. Cap. 152.

MOROSIS.

The Greek Word μώρωσις corresponds to what we commonly call Stupidity, a Disorder, which, though commonly thought incurable, is nevertheless, according to the Opinions of the most celebrated Physicians, to be either totally removed, or at least greatly alleviated, by proper Measures.

This Disorder, according to the celebrated Willis, proceeds either from a Fault of the Brain, or from a bad Condition of the animal Spirits, or from both these in Conjunction.

Thus, for Instance, it is produced, when the animal Spirits are deprived of their active Particles, and become vapid, languid, and incapable of exerting themselves in a due Manner, in Consequence of their being clogged with aqueous and terrestrial Particles.

But though this Disorder frequently arises only from a Fault

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of the animal Spirits, yet it is oftener produced by some Imperfection of the Brain: Thus, for Instance,

1. It is a common Observation, that the Genius, in some measure, depends upon the Bulk and Figure of the Head, and consequently, of the Brain: Hence it is become proverbial, that either too small, or too large, a Quantity of Brains are Marks of Folly and Stupidity. And though this does not always happen, yet it is frequently found to hold true. The Reason of both is sufficiently obvious, because, in a small Brain, too few Spirits are generated and secreted; whereas a preternaturally large Brain is generally of a Texture too coarse and ignoble to produce a Quickness and Vivacity of the mental Powers.

2. Since, in order to a due Distribution of the Spirits from the Center to the Circumference of the Brain, and their equal Return from the latter to the former, 'tis requisite the Brain should be of a duly globular Figure, hence we observe, that Persons, whose Craniums are preternaturally depressed or acuminate, labour under an Imperfection of the mental Powers, or are what we call stupid.

3. As a due Texture, and laudable Temperament, of the Brain, with respect to Cold, Heat, Dryness, and Humidity, are requisite to Brightness of Genius; so 'tis obvious, that its Reverse, which is Stupidity, must be produced by a want of these. Some Climates are, by the unlucky Influence of their Atmosphere, said to incline their respective Inhabitants to Stupidity. Thus, for Instance, to be born in Bawtia, is, in the emphatic Language of Antiquity, a proverbial Expression, importing that the Person, to whom it is applied, is a Fool.

4. Stupidity may not only arise from these Faults of the Brain, which are already enumerated, and are, for the most part, original and connate; but, also, from its bad Conformation, with respect to its Pores and Vessels, brought on by adventitious Causes; and, in consequence of which, the animal Functions are unduly performed. Thus, if these Pores and Vessels are too much constricted, they do not admit a Quantity of Matter sufficient for a due Generation of Spirits. If, on the contrary, they are too much relaxed, they admit, along with the Matter destined for the Generation of the Spirits, heterogeneous Particles, highly unfriendly to the animal Oeconomy. There may be, also, an Inequality in the Conformation of these Pores and Vessels; when, for Instance, they are more wide and pervious in one Part of the Brain, than in another. This, perhaps, is the Reason why some Persons receive just enough Impressions of Things, but, at the same time, form wrong Judgments concerning them. Perhaps, also, 'tis for this Reason, that those who are blessed with an Imagination sufficiently strong and lively, are cursed with a treacherous and fallacious Memory.

It sometimes happens, that both a bad Condition of the animal Spirits, and a Fault or Imperfection of the Brain, concur to the Production of Stupidity. And whichever of these is first affected, will, of course, soon convey a proportionable Disorder to the other; for, if languid and inactive animal Spirits are not freely conveyed through these Pores or Vessels, they will either not be sufficiently extended, or again coalesce. If, on the contrary, the Spirits, in consequence of a bad Structure and Conformation of the Brain, cannot expand themselves duly, they will, at last, become slow and torpid, and acquire a peccant Disposition, capable of producing Stupidity.

Stupidity, as we have already observed, is sometimes original and connate; and this Species of the Disorder is either hereditary, or accidental; hereditary, when Fools beget Fools; that is, when the languid and effete Particles of the Parent constitute the animal Organs of the Child; and accidental, when wise and ingenious Parents procreate dull and stupid Children. Thus, in Parents addicted to Study, Reading, and Meditation, the most rich and generous Particles of the Blood are conveyed to the Brain, in order to supply a sufficient Quantity of Spirits; in consequence of which, too few of these generous Particles descend to the spermatic Vessels.

Though, in the Brute Creation, the Temper and Genius of the Parent is conveyed through a long Series of the Offspring, when duly managed, yet it often happens otherwise in the human Race; since Parents, by Intemperance, Luxury, and an irregular Course of Life, have their Constitutions so broken, and their Strength so impaired, as to procreate languid and valetudinary Children. Hence, the Offspring of Parents loaded with Age, or propagating their Species when too young, or of such as are addicted to Drunkenness, Softness, and Effeminacy, are generally cursed with a dull, an heavy, and a stupid Genius. The same Misfortune is also incident to those who spring from Parents afflicted with Disorders of the Brain, such as Palsies, Epilepsies, a Carus, and Spasms: So that 'tis an unspeakable Advantage, to spring from Parents blessed with a sound Mind in a sound Body.

Various evident Causes concur to the Production of Stupidity in Persons originally sound. Thus some Persons, at first ingenious and acute, in the Decline of Life, without any considerable Error in Regimen, become gradually dull, and at last stupid, because the Blood, and nervous Fluid, by degrees, lose their native Vigour, and become languid and inactive; for 'tis observable,

ble, that the Genius of some Persons is variously brighten'd, or beclouded, according to the various Periods of their Age. Thus some, who in their Childhood are the Admiration of all around them, for their Sagacity, Docility, and Quickness of Apprehension, afterwards become the Scorn of their Acquaintance, on account of their Dulness and Stupidity; whereas, on the contrary, it often happens, that Persons in their Infancy dull, and insusceptible of the Impressions of Literature, afterwards become remarkable for the Penetration of their Judgment, and the Sprightliness of their Genius. In this Case, the animal Spirits, being at first clogg'd and incumber'd, at last emerge, and exert themselves with due Vigour; whereas, in the former, being at first too free and uncounfin'd, they are soon dispatch'd, and leave the Patient dull and stupid. Hence Children in their Infancy dull may afterwards become sufficiently ingenious, when the Temperament of the Brain is chang'd, and its superfluous Humidity evaporated.

Stupidity and Dulness are, also, frequently produced by violent Blows and Concussions of the Head, by frequent Drunkenness, Surteiting, and the excessive Use of Opiates; by violent and sudden Passions, such as Frights, and excessive Sorrow; and by Diseases of the Brain, such as Epilepsies, Palsies, Apoplexies, and a Carus.

There are various different Species of this Disease: Thus, for Instance, it is distinguish'd into Folly and Stupidity. In the former, the Patients dexterously and quickly enough apprehend simple Things, and retain them sufficiently in their Memories; but, for want of Judgment, compound and divide their Notions ill, and are still more unlucky in drawing Inferences; whereas, in the latter, that is, Stupidity, the Imagination, the Memory, and the Judgment, are so defective, that the Patient neither apprehends quickly, nor reasons well.

There are various Gradations and Degrees of Stupidity; since some, who are incapable of acquiring Literature, and the liberal Sciences, are yet well enough qualified for the mechanic Arts; whilst others, absolutely incapable of either of these, are nevertheless adapted to the Fatigues of Agriculture, and the toilsome Labours of a Country Life. Others, incapable of every Employment, can only be taught what is necessary to the Preservation of Life, and the common Method of behaving in the World; whilst others are so superlatively stupid, that they hardly understand any thing at all; but act and speak in an absurd, ridiculous, and inconsistent manner.

As for the Prognostics of this Disease; Stupidity, whether hereditary, or produc'd by unknown Causes, if it remains to the Years of Puberty, is scarcely ever cur'd, tho' it frequently happens, that Children at first dull and stupid, upon a laudable Change of the Brain, and animal Spirits, become ingenious and docile.

Stupidity succeeding an inveterate Epilepsy, or produc'd by an evident Cause, such as an Injury done to the Head, or the Sally of some violent Passion, if it continues long, becomes incurable.

The Species of Stupidity, which principally consists in a Loss of Memory, and succeeds Lethargies, and lethargic Disorders, sometimes spontaneously ceases, when these Diseases are cur'd. In the Cure, therefore, of this Species of Stupidity, the principal Intentions are, to free the animal Spirits from their languid and torpid State, and to render them capable of circulating freely, and expanding themselves duly in the Pores and Vessels of the Brain.

It has been sometimes observ'd, that foolish and stupid Persons have been cur'd, and their Genius render'd more acute and bright, by a Fever. Thus *Huartus* informs us, that, at *Corduba*, a Fool, being seiz'd with a violent malignant Fever, in the middle of the Disease acquir'd an uncommon Judgment and Penetration, which remain'd with him during the future Part of his Life. Instances of this kind may be accounted for from this, that the febrile Heat sometimes rarefies and dispels the Matter which injures the Brain, and by that means produces the Stupidity.

As for the Cure of this Disorder, *Stupidity*, whether connate, or adventitious, if it is not a Folly incapable of Change or Instruction, may be greatly alleviated, tho' not totally remov'd. For this Purpose, both the Physician and the Preceptor are to join their Care, in order to polish the Patient's Mind, and drag him, as it were, from the brute to the human Species.

As stupid Persons, therefore, become as slowly acquainted with the common Notions and Ideas of Things, as Children do with Words; so 'tis expedient they should constantly be instructed by a careful and laborious Preceptor, who should never become weary of inculcating the same things over and over again: For by this means, the Spirits, tho' naturally torpid and inactive, will, by the perpetual Exercise, be somewhat rous'd and brighten'd; and, being continually excited, will make, in the Brain, tho' coarse and gross, Tracts or Passages, tho' imperfect, for their own more free and easy Expansion. But, that this Intention may be the more effectually obtain'd, such Medicines as clear the Brain, purify and refine the

Blood, the nervous Fluid, and animal Spirits, are to be exhibited.

In order to purify the Blood, gentle Purges, and Venesection, if the Strength permits, frequently, tho' moderately repeated, are to be us'd. Besides, in order to derive the feculent Matter more effectually from the Brain, Fontanels are to be made in the Arms, or in the Legs, or in both. In such Patients as are fat, and have a moist Brain, it is sometimes expedient to make two Fontanels near the Scapulæ. For this Purpose Trepanning is by some, also, highly commended, since by its means the Brain perspires more freely. The Patient ought to use Food of a light and attenuating Nature, to live in a free and dry Air, and to take but moderate Sleep.

If, after the due Use of these Measures for a considerable time, no salutary Effect is produc'd, 'tis in vain to attempt any thing farther by Medicines: But if, by their means, any hopeful Signs of Recovery begin to appear, it is expedient every Day, at medicinal Hours, to exhibit alterative Medicines for a long time. The Medicines, in a peculiar manner calculated for the Removal of Stupidity, are these following.

Take of the succinated Spirit of Sal Ammoniac, six Drams: Of this, exhibit between fifteen and twenty Drops, every Evening and Morning, in three Spoonfuls of the following distil'd Water, drinking seven Spoonfuls of the same after it. The distil'd Water is thus prepar'd.

Take of the Leaves of Millero, and recent Apples each six Handfuls; of the lesser Sage, Rosemary, Savory, Mother of Thyme, Calamint, Penny-royal, Marjoram, and the greater Rocket, each four Handfuls; of the Roots of Angelica, and Masterwort, each six Drams; of Zedoary, the lesser Galangals, Calamus Aromaticus, and Winter's-bark, each two Ounces; of Cloves, Nutmeg, Mace, Cinnamon, Ginger, each one Ounce; of Cubebs, Cardamums, and Grains of Paradise, each six Grains: Upon all these, when cut small, and bruis'd, pour twelve Pints of the best Canary Wine: Digest cold in a close Vessel for three Days; then distil all together, and let the Liquor obtain'd be adulcorated with Sugar when us'd. Its Dose is two or three Ounces.

After the Use of the Spirit of Sal Ammoniac, for fifteen or twenty Days, other Medicines are to be us'd for about as long, such as the Spirits of Soot, Harts-horn, and of the human Cranium. The Tinctures of Coral, Antimony, Castor and Amber, *Quercetan's* Elixir of Life, Elixir Proprietatis, and Spirit of Lavender.

Or,

Take of the Conserve of the Flowers of Lilies of the Valley, six Ounces; of the preserved Roots of Sweet Flag, of Ginger preserved in the *Indies*, and of preserv'd Nutmeg, each half an Ounce; of the Species Diambrae, two Drams; of Aloes-wood, Yellow-sanders, the best Zedoary-root, Cubebs, and *Jamaica* Pepper, each a Dram and an half; of prepared Coral, two Drams; and of the Syrup of preserved Ginger, a sufficient Quantity for making an Electuary; of which two Drams are to be taken Morning and Evening, drinking afterwards three Ounces of the distil'd Water before prescrib'd.

Those whose Brains are too moist, should every Morning drink Coffee, with Sage-leaves previously boil'd in it. Those whose annual Spirits are faint and languid, should, on the contrary, drink Chocolate for common Drink. Ale, or Small-beer, should be used in three or four Gallons of which, after the Fermentation is over, the following Bag should be put.

Take of the Leaves of Sage dried, four Handfuls; of Cubebs, one Ounce; of Cloves and Nutmegs, cut and bruis'd, a sufficient Quantity: Mix all together, and put in the Bags.

External Applications, such as Cucuphas, or medicated Caps, Plaisters, and Liniments, are also used in this Disorder. Thus a Cucupha, to be used in it, may be thus prepared.

Take of the Flowers of Lily of the Valley, Rosemary, and *Stœchas*, each one Handful; of *Celtic* Spikenard, two Drams; of the Roots of the Cyperus, the lesser Galangals, and Florentine Orris, each three Drams; of Laudanum, Benjamin, Balsam of Tolu, and Amber, each two Drams; of Nutmegs, Cloves, Mace, and Cinnamon, each one Dram and an half: Reduce all to a fine Powder, to be sew'd up in Cotton in a Cap.

A Plaister, to be used by Patients labouring under Stupidity, may be prepared in the following manner.

Take

Take of the Emplast. Flor. Unguent. two Ounces; of Tacamahac, Caranna, and Balsam of *Tolu*, each three Drams; of the Powders of Amber and Myrrh, each two Drams; of Cloves, Nutmeg, and Mace, each one Dram. Melt all together into a Mals, of which make a Plaister, to be spread on Leather, and applied to the Head when shav'd.

A Liniment may be prepared thus :

Take of the Oil of Palm, half an Ounce; of the Balsam of Capivi, three Drams; of *Peruvian* Balsam, one Ounce; of the Oil of Nutmegs, by Expression, two Drams; and of the Oil of Amber, half a Dram: Make into a Liniment for the Head. *Willis*.
See ANACARDIUM.

MOROXOS. The same as MOROCHTHOS.

MORPHÆA. Morphew. This is defined to be a Species of Leprosy, differing from it in this, that the Seat of the Leprosy is in the Flesh, but that of the Morphew in the Skin.

MORPHNOS. A Species of Eagle mentioned by *Aldrovandus*.

MORPIONES. Crab-lice. These, being flattish, stick so fast with their Claws to the Skin, as to create much Difficulty to dislodge them. Being viewed by a Glass, they nearly resemble the small Crab-fish, and thence are called, by some, Crab-lice, by others Placulæ, Morpiones, Petolæ, and Pessolatæ. They usually infest the Arm-pits, Eye-lids, Eye-brows, and Pudenda.

Turner, in his Diseases of the Skin, gives the following Case, as an Example of the Method of treating this sort of Vermin. A young Man, long labouring under an intolerable Itching of the Pubes and Scrotum, had almost stayed the Parts by scratching. Upon narrowly observing the Roots of the Hairs, I perceived, in their Interspaces, some of the Crab-like Vermin, so riveted, as it were, in the Skin, that I could only raise two or three of them, to convince him of the Cause of his Complaint.

The Tendernefs of the Parts rendering him unable to bear any of the usual Applications, I mixed up one Dram of Quick-silver with two Ounces of Diapompholyx. I ordered him to spread this thin upon a Cloth, and apply to the Parts, and to secure his Dressing with a small Bag-truss. In a few Days he was cured, the Lice coming daily away, dead, upon the Dressings.

In others, who have not thus excoriated themselves, I have seen Hundreds fall from the Arm-pits, and Pubes, dead, upon the first Application of a Rag wet with the Milk of Sublimate. This sort of Vermin is reckoned to prognosticate speedy Mortality to those they abandon, when not removed by Medicine.

MORSELLUS, or MORSULUS. A Lozenge, or Troche.

MORSUS. A Bite. Figuratively it is used to express a sort of Pain resembling that which is excited by a Bite, or by Gnawing.

Orpheus, in his Hymn to *Mercury*, says, that Coral in Powder, and mix'd with Wine, is good against the Bites of Serpents.

The *Psylli*, a People of *Libya*, were famous amongst the Antients, for curing the Bites of Serpents, by sucking the Wound. One of these *Psylli* was made to suck the Wounds *Cleopatra* had receiv'd from the Asps. It was said no Serpent could hurt these *Psylli*.

MORSUS DIABOLI, in Anatomy, is the fimbriated, or jagged Extremity of the Fallopian Tubes of the Uterus. But, in Botany, *Morsus Diaboli* is a Name for the *Scabiosa, integrifolia, glabra, radice premorsa*.

MORSUS GALLINÆ is the *Alfine*. Offic.

MORSUS RANÆ is the *Microleuconympha*.

MORTARIOLUM, in Chymistry, seems to be a sort of Mold, for fashioning Cuppels. In Anatomy, the Sockets of the Teeth are thus called.

MORTARIUM. A Mortar. Mortars are usually made of Wood, Marble, Iron, Brass, Lead, or Glass; but Care must be taken not to use them indifferently; for acid and corrosive Substances will corrode Metals, and, if pounded or rub'd in metal Mortars, will be impregnated with the Qualities of Metal, or be utterly spoiled. Thus, also, very hard Substances will, by rubbing, wear away a Part of Wooden, or even Marble Mortars; and a Medicine will be spoiled by having the Raspings of the Wood, or the Powder of the Stone, mixed with it.

MORTIFICATIO. A Mortification, or Sphacelus. See GANGRÆNA.

MORUM. An Excrescence on the Surface of the Skin in many Parts of the Body, resembling a Mulberry. When this happens upon the Eye-lids, the *Arabians* call it *Alchute*.

MORUS.

The Characters are;

The Leaves are rough, and of a roundish Form. The Flower is amentaceous, consisting of three Stamina, which arise from a Calyx, composed of four Leaves; in the Centre of the Flower is an aqueous Receptacle, or Cell. The Fruit, which grows at

a Distance from the Flower, is composed of a long Axis, to which grow, on every Side, Eggs, causing it to appear as if it consisted of a Multitude of little Conglomerations, each of which consists of a small succulent Berry, furnished with a wreathed Tube, which is surrounded with four small Leaves; the Union of a Multitude of these constitutes the Fruit; the Seeds are of a roundish Form.

Boerhaave mentions three Species of this Plant; which are,

1. *Morus*; fructu nigro. C. B. P. 459. *Tourn. Inst.* 589. *Boerb.* Ind. A. 2. 209. *Morus*. Offic. Ger. 1325. Emac. 1507. *Morus nigra*. J. B. 1. 118. Raii Hist. 2. 1429. Park. Parad. 596. *Morus nigra vulgaris*. Park. Theat. 1491. THE MULBERRY-TREE.

The Mulberry-tree grows to be a large tall Tree, with a brown rugged Bark, shooting out its Leaves very late in the Spring, when the Winter's Frosts are past, which are large, and somewhat rough or scabrous, broad at the Base, and growing narrower towards the End, serrated about the Edges, and set on short Foot-stalks. The Flowers stick close to the Branches, each composed of four small Leaves, growing in Clusters. The Fruit is oblong, consisting of a great Number of Acini, set together in a round Form, of a deep-purple Juice; it grows in Gardens, and the Fruit is ripe in *August* and *September*. The Bark of the Root, and the Fruit, are used.

The Bark of the Root is somewhat warm and dry, opens Obstructions of the Liver and Spleen, and helps the Jaundice. The unripe Fruit is drying and binding, useful in all Kinds of Fluxes, and very good for Inflammations in the Mouth and Throat. The ripe Fruit is cooling, and somewhat loosening; good to allay the Heat of burning Fevers; it is grateful to the Stomach, and creates an Appetite.

Officinal Preparations are the *Syrupus* and *Mel Mororum*. *Miller's Bot. Off.*

The Fruit of the black Mulberry-tree, called, in the Shops, *Mora Celsi*, while immature, is cooling, dry, and very astringent; and is, therefore, proper in *Diarrhæas*, *Dysenteries*, the *Cæliac* Passion, an immoderate Flux of the *Menses*, and Spitting of Blood; outwardly they are serviceable in Inflammations and Ulcers of the Mouth and Fauces.

The ripe Fruit of the Mulberry-tree, taken in the Beginning of a Repast, and before other Food, according to *Dioscorides*, loosens the Belly; but, eaten last, after other Food, is easily corrupted, and hurtful to the Stomach. *Pliny* tells us, and what he says, is confirmed by Experience, that it is cooling, quenches Thirst, and excites an Appetite; if it be eaten last, it swells upon the Stomach, which is, also, the Opinion of *Galen*. *Horace*, on the contrary, says,

—Ille salubres

Æstates peraget, nigris qui Prandia Moris

Finiet, ante gravem quæ legerat Arbore Solem.

"The Way to pass the Summer in Health is, to finish your Meals with black Mulberries, gathered before the Heat of the Day." Others, also, will have Mulberries to be grateful and friendly to the Stomach. *Galen* conjectures, that Mulberries participate, in a very small measure, of that Property which Cathartics possess in an high Degree; and that they are hereby qualified not only for an easy Secretion, but are, also, disposed to corrupt, if retained long in the Belly; and he supposes the whole Tree, in all its Parts, to be endued with a kind of Virtue compounded of a restraining and cathartic Quality. In the Bark of the Root, however, it is certain, that a purgative Quality, with a sort of Bitterness, prevails so far as to qualify it for destroying the broad Worm.

The Juice of ripe Mulberries is very serviceable in Stomatic Medicines, that is, such as are adapted to the Mouth and Fauces. *Plin. Lib. 23. Cap. 7.* gives the following Prescription of a Medicine of this Kind, which he calls *Panchrestos Stomaticæ*, and, also *Arteriace*:

Take of Juice of Mulberries, three Pints; evaporate it gently, to the Consistence of Honey; after which take of dry Onphacium, two Drams; of Myrrh and Saffron, each one Dram: Bruise them, and mix them together for Decoction.

There is not prepared a more agreeable Remedy for the Mouth, Aspera Arteria, Uvula, or Stomach; other Ways of preparing a *Stomaticæ* are prescribed in the same Chapter. A Decoction of the Leaves, either by themselves, or with the Bark, used as a Gargarism, eases the Tooth-ach. *Schroder*. The same bruised in Oil, or Vinegar, according to *Schwenckf.* and applied, cure Ambustions. *Dioscorides*.

The Syrup of Mulberries, by its grateful Acidity, is very useful in Fevers, to extinguish Thirst, and allay the burning Heat; it is of no less Service in Inflammations, Pustules, or Ulcerations of the Mouth, Palate, Uvula, Tonsils, Throat, and Fauces. The Wood is serviceable in Works which require Bending, and is of a solid Substance, and no less durable in Water than Oak: It is thought to be eternal, as we are told by *Theophrastus*, and to grow black with Age, like to *Lotus*. *Raii H. P.*

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The Fruit, according to *Bartholine*, is very good for the Scurvy, and reckoned among Cardiacs. The *Diamorum* is very proper to be taken in Cases where a Putrefaction, and Alcali, predominate. *Hist. Plant. adscript. Boerhaav.*

2. *Morus*, Fructu albo. C. B. P. 459. *Morus alba*. J. B. 1. 119. *Morus candida*. Dod.

3. *Morus*, Fructu albo; humilior; profundius laciniata. C. B. P. 459.

For the manner of preparing the *Diamoron*, see MEL.

MORXI. The Name of a pestilential Distemper, very common in *Malabar*, and other Parts of the *East Indies*.

MOSA. A sort of Aliment very common in *Germany*, among the Country People, made of the Meal of Wheat, or Spelt, and Milk; and like what we call thicken'd Milk. It is esteem'd a great Error to feed Children too much with this.

MOSCH. According to *Castellus*, a sort of roriferous Vessels, said to be discovered by *Bilsius*, in the Kidneys.

MOSCHATA NUX. See NUX MOSCHATA.

MOSCHATELLINA.

The Characters are;

The End of the Pedicle unfolds itself into a three-lob'd Calyx, expanded like a Star, and not caducous. The Ovary grows out of the Placenta, seated in the Centre of the Pedicle, within the Calyx, and has on its Sides five Tubes; the fifth Ovary on the Apex has, sometimes, four Tubes, and appears quadricapsular, containing four Seeds. The Flowers grow to the Sides of the Calyx, are quinquefid, and furnished with ten Stamina; the fifth Flower, elevated above the rest, is quadrifid, and furnished with eight Stamina. The Flowers and Ovaries, which are always five in Number, are compacted together into the Figure of a Cube, deficient only on its lowest Side.

Boerhaave mentions one Sort of this Plant; which is,

Moschatellina foliis Fumariæ bulbosæ; -de quâ Cordus. 7. B. 3. 206. *Ranunculus nemorosus*, *Moschatellina dictus*. C. B. P. 178. M. H. 2. 438. *Ranunculus*; *minimus Septentrionalium*, *herbido*, *muscoso flore*, & *Muscicella* Cordi. Lob. Ic. 674. *Aristolochia rotunda concava similis herbula*, *Tragi Radix carva minima*. Tab. Denticulata. Lugd. 1296. *Boerb. Ind. alt. Plant.*

It is called *Moschatellina*, as a Diminutive from *Moschus*, Musk; that is to say, a small Plant smelling like Musk. The Root of the Plant is resolvent, vulnerary, and detergent. *Hist. Plant. adscript. Boerhaav.*

MOSCHELÆUM. A sort of aromatic compound Oil, in which Musk is an Ingredient.

MOSCHOSITERON, *μοσχόσιτερον*. This Word occurs in *N. Myrepsus*, Sect. 3. Cap. 92. *Fuchsius* interprets it Fenugreek.

MOSCHUS. The Animal which produces Musk, is thus distinguished.

ANIMAL MOSCHIFERUM. Offic. Raii Synop. A. 127. *Moschus* sive *Moschi Capreolus*. Schrod. 5. 301. *Capra Moschus*. Aldrov. de Quad. Biful. 743. Jonst. de Quad. 55. *Capreolus Moschi*. Ejusd. Tab. 29. Gesn. de Quad. 695. *Capra Mosch*, *aliis Cervus odoratus*. Charlt. Exerc. 10. THE MUSK ANIMAL.

This Animal seems neither to be of the Goat nor of the Hart-kind. The only Part of it in Use is Musk, which is a grumous, pinguous, and unctuous Substance, not unlike grumous Blood, of a blackish rusty Colour, of a somewhat acrid and bitter Taste, of a fragrant grateful Smell, and found in Follicles, situated near the Navel of the Animal: It is of an heating, drying, attenuating, discutient, cordial, alexipharmic, and, consequently, cephalic Quality: It is principally used in Palpitations, and all other Disorders of the Heart, because it cherishes, rouses, and refreshes the vital Spirits. For the same Reason it is, also, used in Disorders of the Head and Nerves, produced either by cold or gross Humours, as, also, in Colics. Externally it deterges Specks of the Eyes, dries up moist Defluxions, proves a Stimulus to Veneris, and restores the diminished Hearing.

The Generation of Musk has laid a Foundation for no small Disputes among Authors; some affirming one, and some another thing; for some maintain it to be a purulent and excrementitious Humour, concocted and collected in the Follicule, near the Navel of the Animal: But, according to them, the Animal itself, of a lascivious and lascivious Disposition, by rubbing its Belly against Stones and Trees, tears this Follicule, and, by that means, discharges the Humour contained in it, which, being coagulated by the Air and Sun, is concreted into that Substance we call Musk. Others maintain, that the Musk is not evacuated by any Dilaceration of the Follicule, but flows spontaneously through an excretory Duct, allotted for that Purpose. Others affirm, that Musk is only the Follicule of the Animal, cut out after it is killed: And this Opinion is confirmed by our Merchants, who, for the most part, buy the Musk contained in its natural Follicule. Others are of Opinion, that Musk is Blood extravasated, and collected into Apostems, by beating the Animal till Tumors and Abscesses are raised, which being, as it were, by a Ligature constricted into Follicules, are afterwards cut out, and afford the Musk. Others are of Opinion, that all the Parts of the Animal afford Musk. In my Opinion, Musk seems to be an excrementitious Blood, which has undergone various Concoctions and Alterations in its proper Follicule, and is either naturally secreted,

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and collected by human Industry, or contained in the Follicule of the Animal, when killed at a proper Season: But the crafty and fraudulent Merchants add the Blood, Skins, and other Parts of the Animal to the Musk; and with this Mixture they stuff Bags, made of the Skin, and sell them for true and genuine Musk-follicules: But this Piece of Fraud is easily discover'd by the Skilful, and the Cautious; for that Musk, which, when burned, evaporates, is thought to be genuine; but if, when burned, there remains something like a Coal, it is adulterated. The Curious may, for their farther Satisfaction, consult *Schrockii Historia Moschi*. Dale.

MOSCOLEA. The same as MOSCHELÆUM.

MOSQUITÆ.

Bontius, in his *Treatise de Medicina Indorum*, informs us, that the Eruptions which *Celsus* calls *Papulæ*, and *Pliny*, *Sudamina*, are, in the *Indies*, as common as the Bites of that Species of Insect which the *Portuguese* call *Mosqueta*: These *Papulæ* are of a redish Colour, somewhat rough, thrown out upon the Skin by Sweat, for the most part possessing the whole Body, and, at their first Appearance, accompanied with an intolerable Itching, and a perpetual Desire of scratching. Strangers, on their first Arrival, are more exposed to these Eruptions, as, also, to the Bites of the *Musquetas*, than those who have resided in the Country for some time; so that, by way of Ridicule, a Person labouring under any of these Misfortunes is called *Organ Baron*, which, in their Language, signifies a Man lately arrived: They, also, by way of Reproach, tell him, That the *Musquetas* and *Papulæ* demand a kind of Tribute, or Tax, for that Milk and Butter which he has consumed; for those who have resided in that Country for a long time, give themselves the pompous Name of *Orang Lamme*, that is, Veterans. The *Papulæ*, when expelled by Nature, are only to be ranked among the cutaneous Disorders. But when either these, or the Bites of the *Musquetas*, are rashly treated, or the Skin torn off by the Nails, they often produce malignant Ulcers, not to be cured without the greatest Difficulty.

Sic neglecta solent incendia sumere vires.

In order, therefore, to remove this troublesome Itching, I cause Water to be mixed with Vinegar, adding a proper Quantity of Nitre, or Sal Prunellæ; and the Body is to be fomented with a Linen Cloth, dipt in this Liquor; or, if a more acrid Preparation is wanted, recent expressed Juice of Lemons is to be added: Though, by this means, an intense Pain is at first produced, yet it soon decreases so far, as to be more tolerable than the troublesome Itching. I, also, advise Physicians and Surgeons by no means to prescribe Purgatives, however mild, in the *Papulæ*, lest the bilious and acrid Matter, being, by their means, convey'd to the Intestines, should bring on a Dysentery; but, rather, either to leave the Cure to Nature, or assist the Excretion of the peccant Matter by Sudorifics; for, through the Carelessness or Ignorance of some, I have often seen such Misfortunes happen.

MOSYLETICUS BLASTUS. A Name for the Species of Calia, the third in Goodness. *Oribasius*, *Med. Collect. Lib. 12.*

MOSYLLON, *μόσυλλον*. An Epithet for the choicest Cinnamon in *Galen*. *Lib. de Theriac. ad Pison. Cap. 12.*

MOTACILLA. Offic. Schrod. 5. 321. Mer. Pin. 178. *Motacilla alba*. Aldrov. Ornith. 2. 726. Gesn. de Avib. 557. Jonst. de Avib. 86. Charlt. Exerc. 96. Schw. A. 386. Raii Ornith. 237. Ejusd. Synop. A. 75. Will. Ornith. 171. *Cnipologus*. Bellon. des Oyse. 356. THE WATER-WAGTAIL.

This Bird is celebrated for its Virtue in wasting the Stone. Dale.

MOTELLA. Aldrovandi. *Lota Gallorum*. Jonst. A Fish much like a Lamprey, but somewhat larger, and more round, furnished with small redish Scales, and marked with black Spots. *Lemery* informs us, that the Spawn injures the Stomach, and excites Gripes; and that the Fat is emollient, and good to remove Specks of the Skin.

MOTOS, *μῶτος*. Lint.

MOUL-ELAVOU, sive *Arbor lanigera spinosa*, H. M. *Gossypium arboreum* *Caule spinoso*, C. B. is a fine, tall, lanigerous, or Cotton-bearing Tree, sometimes no less than fifty Feet in Height, and eighteen in Compass, in the Stem or Trunk.

The Down, or Cotton, serves to stuff Beds and Pillows. The Bark of the Tree pulverized, and with the Juice of Lemons reduced into the Form of a Liniment, mitigates all Kinds of Inflammations, and consolidates Fractures of the Bones: Mixed with burnt Wine of the *Indian Nut*, or *Cocon*, it makes a Liniment for the Herpes. Of the Bark of the Root is prepared an excellent Emetic. The sweet Liquor collected in the Bosom of the Flower, exhibited with the Leaves of the *Tamarind*, potently evacuates watery Humours by Stool and Urine. *Raii Hist. Plant.*

Moul-ila, seu *Moul Elavou*. H. M. The *Indian Lemon*, with umbellated Flowers, and a small Fruit. The Fruit is round, cover'd with a dark-green, thick, and rugged Rind, of the Colour of Citron-peel, and of the same Taste, only hotter, and more acrimonious, and inclosing an acid juicy Pulp; for which Reason

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son it serves to boil with Food, instead of Lemons and Pepper, and is, also, thought proper to be preserved with Sugar, or Honey, as a Strengtheners of the Stomach, a Promoter of Digestion, and Destroyer of Worms; it is, also, pickled in Brine and Vinegar; and with an Addition of Garlick, Mustard, and Ginger, enters the Composition of the *Atsjar*. *Raii Hist. Plant.*

MOULLAVA, H. M. is a filiquous *Indian* Plant, with a yellow pentapetalous Flower, and a smooth Pod, containing generally four Seeds: It grows to the Height of eight or nine Feet, and delights in sandy Places; it is an Evergreen, flourishes most in a wintry Season, and the Fruit is ripe in November and December. It is of no medicinal Use but only to the *Pollias*, (so they call the Poor in those Countries) who receive the Smoke of the Leaves up their Nostrils, and so cure themselves of the Head-ach and Vertigo. *Raii Hist. Plant.*

MOUROUVE. J. de Laet. Ind. Occid. Lib. 16. Cap. 11.

All we know of this Plant is, that it is not much different from a Plum-tree, bears a yellow Flower, and a Fruit like a Cherry, with a long Pedicle, a small Stone, and a saffron-coloured and sweet Pulp. *Raii Hist. Plant.*

MOXA. See ARTEMISIA CHINENSIS.

Moxa is a kind of downy Substance, taken from the Leaves of a sort of *Indian* Mugwort, which is used by the *Indian* Nations, as something of the same Kind was formerly employ'd by *Hippocrates*, and other antient Physicians, in cauterizing Parts afflicted with Pain. Some Moderns highly extolled this Operation, as the most effectual Remedy for curing, and even wholly extirpating, the Gout. For this Purpose,

Make a Cone of Lint, Tow, Moxa, or a certain Species of Agaric, about a Thumb's-breadth in Height, (see *Tab. XXXIII. Fig. 12.* at the Letters A and B) like those used in a Fumigation: Stick the Basis of the Cone on the affected Part, with Gum Arabic, or Gum Tragacanth, and fire its Point with a Candle. By these means the Cone will be gradually consumed; the Part will be, by degrees, cauterized; and thence Pains in the Gout will frequently have some Remission. If Pain is not removed by the first, a new Cone must be applied; and the Operation repeated, till the Pain ceases.

But, though this Process was for some time highly commended in *Europe*, it is now entirely disused, and not without Reason; for, besides the acute Pain produced, it has often little or no Effect. Among the *Chinese* and *Japoneſe*, however, this Operation and Acupuncture continue in the highest Esteem. These Cauterizations are, also, said to be at present used by the *Arabians*. More may be seen on this Head in *Rhynius de Arthritide*, *Cleyerus in Medicina Sinica*, *Purman in Observ.* *Valentini polychrest. exotic.* in *Kempfer's Amamit. exotic.* and in his *Hist. Japon. Nat.* and in a particular Dissertation by Sir *William Temple*.

MUCAGO. Mucilage.

MUCHARUM. A barbarous Word, importing an Infusion of Roses, made with warm Water, or such an Infusion sweeten'd with Sugar, and reduced to the Consistence of a Syrup.

MUCILAGO. Mucilage. A Mucilage is any viscid and glutinous Liquor; thus called, perhaps, from the Mucus of the Nose, which it resembles in Consistence.

PREPARATION OF MUCILAGES.

For making this we must have four Vessels, either of *Delft* Ware, or of common Earth, varnished. In one of these we must put a Dram and an half of white Gum Tragacanth, bruised: In another we must put half an Ounce of the Seeds of Psyllium; in another, three Drams of Quince-seeds; and in the fourth, six Drams of the Root of Marshmallows, well cleansed, cut into small Portions, and bruised. Upon the Gum Tragacanth we must pour two Ounces and an half of Strawberry-water; and as much of Betony-water: Then we must cover the Vessel, and place it over hot Ashes, for three or four Hours, or till the Gum is entirely melted, and incorporated with the Water: Then the Matter is to be passed through a proper Sierce, and is called the Mucilage of Gum Tragacanth.

MUCILAGE OF FLEAWORT.

On the Seeds of the Psyllium we must pour three Ounces of Strawberry-water, and as much of Betony-water: Then we must cover the Vessel, and allow the Matter to stand in Infusion over warm Ashes, for eight or ten Hours: Then we must boil the Infusion gently, and strain it by Expression; and this is the Mucilage of Psyllium.

MUCILAGE OF QUINCES.

On the Quince-seeds we must pour two Ounces and an half of Betony-water; and as much of that of Strawberries: Then we must cover the Vessel, and leave the Matter in Infusion, for eight or ten Hours: Then we are to heat the Infusion, till it is almost ready to boil: Then it is to

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be strained by Expression; and this is the Mucilage of Quinces.

MUCILAGE OF THE ROOTS OF MARSHMALLOWS.

On the Marshmallow-root pour Betony, and Strawberry-water, of each six Ounces: Cover the Vessel, and leave the Matter in Infusion, warm, for eight or nine Hours: Then boil to a Diminution of two Thirds; strain the Decoction, expressing it strongly: And this is the Mucilage of Marshmallows. *Lemery Pharmac. Universelle.*

MUCILAGO, Mucilage, also, imports the Mucilage of the Joints.

This Liquor, which principally serves to moisten the Ligaments and Cartilages of the Articulations, is supplied by Glands, which are commonly situated in the Joint after such a manner as to be gently pressed, but not destroyed, by its Motion. By this means, when there is the greatest Necessity for this Liquor, that is, when the most frequent Motions are performed, the greatest Quantity of it must be separated. These Glands are soft and pappy, but not friable; they are mostly of the conglomerate Kind, or a great Number of small Glandules are wrapt up in one common Membrane. Their excretory Ducts are long, and hang loose like to many Fringes, within the Articulation, which, by its Motion and Pressure, will prevent Obstructions in the Body of the Gland itself, or its Excretories, and will promote the Return of this Liquor, when fit to be taken up by the absorbent Vessels, which must be in the Joints as well as in the other Cavities of the Body; and, at the same time, the Pressure on the excretory Ducts hinders a superfluous Secretion, while the fimbriated Disposition of these Excretories will not allow any of the secreted Liquor to be pushed back again by these Canals towards the Glands, as *Cowper* has justly remarked. Besides these conglomerate Glands, we meet sometimes with small simple Folliculi, observ'd by *Morgagni*, which are full of Liquor.

Upon pressing these Glands with the Finger, we can squeeze out of their Excretories a mucilaginous Liquor, which somewhat resembles the White of an Egg, or Serum of the Blood, but is manifestly salt to the Taste. It does not coagulate by Heat, as the Serum does, but turns, first, thinner, and, when evaporated, leaves only a thin salt Film. Different Salts have much the same Effect on it as the other Juices of our Body; for Acids coagulate it, and Alcalies attenuate it. The Quantity of this Mucilage, constantly supplied, must be very considerable, since we see what a plentiful troublesome Discharge of Synovia follows a Wound or Ulcer of any Joint, of which Liquor the Mucilage is a considerable Part.

The Vessels which supply Liquors for making the Secretion of this Mucilage, are to be seen without any Preparation; but, after a tolerable Injection of the Arteries, the Glands are cover'd with them.

In a sound State we are not conscious of any Sensibility in those Glands; but, in some Cases, which I have seen, when they inflame and suppurate, the most racking Pain is felt in them: A melancholy, though a sure Proof of their Nerves.

These mucilaginous Glands are commonly lodged in a cellular Substance, which is, also, to be observ'd in other Parts of the Bag formed by the Ligaments of the Articulation, and contains a pinguious Matter, that must necessarily be attenuated, and forced through the including Membranes into the Cavity of the Joint, by the Pressure which it suffers from the moving Bones.

If, then, the Oil is conveyed from this cellular Substance, and if the attenuated Marrow passes from the Cancelli of the Bones by the large Pores, near their Extremities, or in their Cavities, and sweats through the Cartilages there into the Articulations; which it may, when assisted by the constant Heat and Action of the Body, more easily do, than when it escaped through the compact Substance of the Bones in a Skeleton; if, I say, this Oil is sent to a Joint, and is incorporated with the Mucilage, and with the fine Lymph, that is constantly ouſing out at the small Arteries distributed to the Ligaments, one of the fittest Liniments imaginable must be produced; for the Mucus, diluted by the Lymph, contributes greatly to its Lubricity, and the Oil preserves it from hardening. How well such a Mixture serves the Purpose it is designed for, *Boyle* tells us he experienced, in working his Air-pump; for the Sucker could be moved with much less Force after being moistened with Water and Oil, than when he used either one or other of these Liquors. And, I believe, every one, at first View, will allow the diluted Mucilage to be much preferable to simple Water. This Synovia, as this Liquor, composed of Oil and Mucilage, is commonly called, will, therefore, while in a sound State, effectually preserve all the Parts concerned in the Articulations, soft and flexible, and will make them slide equally on each other, by which their mutual Detrition and Overheating may be prevented, in the manner daily practised in Coach and Cart-wheels, by besmearing them with Grease and Tar. After this Liquor of the Articulations becomes too thin, and unserviceable, by being constantly

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stantly pounded, and rubbed between the Bones, it is reassumed into the Mass of Blood, by the proper absorbent Vessels, which the Articulations have in common with all the other Cavities of the Body.

When the Synovia is not rubbed betwixt the Bones, it inspissates; and, sometimes, when the Head of a Bone has been long out of its Cavity, this Liquor fills up the Place of the Bone, and hinders its Reductions; or, if a Joint continues long unmov'd, the Synovia cements the Bones, and occasions a true Anchylosis. *Ambrose Paré* says, he has frequently seen such Cases; and *Hildanus* gives a particular Example of it. If the Synovia becomes too acrid, it erodes the Cartilages and Bones, as frequently happens to those who labour under the Lues Venerea, Scurvy, Scrophulæ, or Spina Ventosa. If this Liquor is separated in too small a Quantity, the Joint, as *Galen* remarks, becomes stiff; and when, with Difficulty, it is moved, a crackling Noise is heard, as People advanced in Years frequently experience. This Sort of Disease *Aquapendente* very accurately describes, and rationally accounts for. If the Mucilage and Lymph are deposited in too great a Quantity, and the absorbent Vessels do not their Office sufficiently, they may occasion a Dropsy of the Joints, which *Hildanus* has at large treated of. From this same Cause, also, the Ligaments are often so much relaxed, as to make the Conjunction of the Bones very weak: Thence arise the Luxations from an internal Cause, which are easily reduced, but difficultly cured; and, frequently, when such a superfluous Quantity of this Liquor is pent up, it becomes very acid, and occasions a great Train of bad Symptoms, such as Swelling and Pain of the Joints, long sinuous Ulcers and Fistulas, rotten Bones, Immobility of the Joints, Marcor and Atrophy of the whole Body, hectic Fevers, and several others. Most of these Symptoms from the diseased Mucus of the Joints, *Hippocrates* very accurately describes; and *Hildanus* gives the Histories of a great many People labouring under them. *Mourro's Osteology*.

MUCOCARNEUS, in *M. Aurel. Severinus*, is an Epithet for a Tumor, or Abscess, which is partly fleshy, and partly filled with a sort of Mucus.

MUCOR is the same as Mucus.

MUCOSÆ GLANDULÆ are the Glands discovered by *Cowper*, in the Penis, commonly called *Cowper's Glands*.

MUCRO, in Anatomy, is the acute Point of the Heart.

MUCRONATUM OS, or, more properly, MUCRONATA CARTILAGO, is the Entiform Cartilage.

MUCUITABA & MOCITAIBA *Brasiliensibus*. *Marcgrav. Pyriformis Brasiliiana*.

The Name of a large Tree, not unlike a wild Pear-tree, to which I find no medicinal Virtues ascribed.

MUCUNA GUACU. *Pison*. The largest and most beautiful Species of Phaseolus growing in *Brasil*. It grows on a Tree of the same Name. The Pod has a black Shell, almost as hard as a Stone, and covered with soft yellow Hair, is an Hand's-breadth long, and three Fingers-breadth wide. When broke open, it discovers three or four very beautiful globular Beans, divided by Interstices of a scarlet or red Colour, round, smooth, and with a large Eye, which, being macerated in Water, are deprived of some Part of their noxious Quality; and, being prepared with *Tiopia de Mandiboca*, are eaten by the Natives, so that their poisonous Quality does not seem so deeply implanted in them by Nature, as not to admit of proper Correctives; for though the interior Substance of the Bean, by its Acrimony, and biting Property, vellicating the Viscera, excites great Perturbations in the Body, and purges violently by Stool and Vomiting, the cooling and demulcent medicinal Aliment, prepared of the *Tiopia*, serves as an Antidote, and is, therefore, preferable to other Things employed to correct it. *Raii Hist. Plant*.

MUCUS. That viscid Fluid, which is secreted in the Membrana Pituitaria, and discharged from the Nose upon blowing, is thus called.

MUGIL. *Offic. Raii Ichth.* 274. *Ejusd. Synop. Pisc.* 84. *Aldrov. de Pisc. Saly. de Aquat.* 75. *Jonf. de Pisc.* 73. *Charlt. de Pisc.* 32. *Cephalus*. *Rondel. de Pisc.* 1. 260. *Cephalus, seu Mugil*. *Bellon. de Aquat.* 210. *Cephalus Rondeletii*. *Gesn. de Aquat.* 349. THE MULLET.

It is taken in the Sea; the Flesh is used in the Kitchen, and the Part serviceable in Medicine is the BOTARGUM; which see.

MUGO. A Name for the Mountain-pine.

MUIVA *Brasiliensibus*. *Marcgr.* A pomiferous Tree of *Brasil*, bearing a round Fruit, with a soft Pulp, and a Multitude of very small Acini, or Stones. The Natives care not to eat the Fruit, but leave it to be devoured by the Birds; and I find no medicinal Virtues ascribed to any Part thereof. *Raii Hist. Plant*.

MULÆ. Puslules contracted either by Heat or Cold.

MULLA. A Name for several Species of Jessamy, one of which is the Nulla Mulla, or Sambac; for which see JASMINUM. Another is the

Hudda Mulla. *H. M. Gessaminum, vel Jasminum Cataloni-cum multiplex*. *Park.* The Leaves, bruised, and fried in Oil, and

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applied, cure the Bite of a mad Dog. The Root, boiled with *Calamus aromaticus*, in Water of Rice, resists the Poison of Serpents. A third Species is

Tsjeni Mulla. *H. M. Jasminum Indicum flore albo odoratissimo*. A fourth,

Tsjiregam Mulla. *H. M. Jasminum Indicum, flore polypetalo exalbido, fructu minori*. Of the Leaves of this Species, boiled in Oil, is prepared a Balsam, which, the Head being anointed with it, removes all Affections of the Eyes, and strengthens the Sight. The Powder thereof, mixed with Fat and Saffron, cures Itchings of the Skin, being anointed therewith. A fifth Species is the

Catu Pitsjegam Mulla. *H. M. Jasminum Indicum, flore polypetalo, candido, ovis rufescentibus*. A sixth is the

Katu Tsjiregam Mulla. *H. M. Jasminum Indicum, flore polypetalo, candidissimo, fructu majore*. The Leaves, boiled in Oil, cure Diseases of the Eyes. The Root, exhibited with *Calamus aromaticus*, is an excellent Remedy for the Bites all Kinds of Serpents. The last Species is the

Katu Mulla. *H. M. Jasminum Indicum, flore pentapetalo candidissimo, fructu Tsjiregam Mulla*. The Juice of the Leaves is of Service in boiling of Oil, and of no other Use. *Raii Hist. Plant*.

MULLUS. *Offic. Bellon. de Aquat.* 276. *Schonef. Ichth.* 47. *Raii Ichth.* 285. *Ejusd. Synop. Pisc.* 90. *Mullus minor*. *Salv. de Aquat.* 236. *Mullus Gesneri*. *Aldrov. de Pisc.* 131. *Mullus Barbatus*. *Rondel. de Pisc.* 1. 290. *Jonf. de Pisc.* 39. *Mullus Barbatus Rondeletii*. *Gesn. de Aquat.* 565. *Mullus Barbatus minor*. *Charlt. de Pisc.* 18. THE LESSER MULLET.

This Fish, frequently eaten, is thought to procure Dimness of Sight; being cut open, and apply'd raw, it cures the Bites of the Sea-dragon, the Scorpion, and the Spider. *Dioscorides, Lib. 2. Cap. 24*.

MULSUM, generally, is us'd to express Hydromel; but sometimes imports Wine mix'd with Honey.

MULTIPEDÆ, the same as MILLEPEDES.

MULTISILICOUS Plants are such as have, after each Flower, many distinct, long, slender, and, many times, crooked Cases, or Siliquæ, in which their Seed is contain'd; and which, when they ripen, open of themselves, and let the Seeds drop. Of this Kind is the Bear's-foot, Columbines, common Houfleeck, Navel-wort, Orpine, and the like.

MULUS. *Offic. Schrod.* 5. 302. *Aldrov. de Quad.* 358. *Gesn. de Quad.* 702. *Charlt. Exer.* 4. *Mer. Pin.* 166. *Jonf. de Quad.* 15. *Schw. Quad.* 62. *Raii Synop. A.* 64. THE MULE.

This is an Animal got by an Ass upon a Mare. The Hoof, Urine, and Dung, are us'd in Medicine. The Hoof, us'd as a Suffumigation, is said to check too profuse menstrual Discharges; burnt and taken internally, it is reported to cause Barrenness, and in an Ointment, to cure an Alopecia. The Urine, together with its Sediment, is recommended as a Cure for Corns. The Dung stops Hemorrhages of the Womb, and is good for a Dysentery, and Pains of the Spleen. *Dale from Schroder*.

MUMIA. *Mummy*. See AMBRA.

There are two kinds of Mummy; the first of which has its Original from human Carcasses, dry'd by the Sun and Sands in the Desarts of *Africa*, such as those of *Zara, Libya, &c.* where the Winds sometimes bury whole Caravans in the Sands. These Bodies, by drying, become of the Consistence of Horn, and very light. These are called white Mummies, but are not us'd in Medicine. The second Sort are the embalmed Bodies found in *Egypt*, which are very rare, and seldom to be met with among the Druggists; in place of which they sell us Parts of Bodies embalmed with Myrrh, Aloes, and Incense, &c. by the *Fœtus*. This Mummy is reckoned a good Resolvent of coagulated Blood, after Falls or Blows, and a good Antispasmodic, acting not only by its bituminous and balsamic Parts, but, also, by the volatile Salts of the Carcase, from which it is made. By dissolving it in Spirit of Wine, we easily obtain a Tincture which contains its balsamic Qualities. *Geoffroy*.

But Mummy has been apply'd by *Paracelsus, Helmont*, and the Chymists, to other things, both real, and imaginary. Thus *Mumia Medullæ* is the Marrow of the Bones, *Mumia Elementorum* is defined the Balsam of the external Elements, and *Mumia Transmutata* is *Manna*. *Mumia*, also, imports a Water collected in a Phial from the Breath of a Man received therein, after washing his Mouth with Water. *Mumia* has, farther, a very singular Signification, being defined, An extremely subtil, spirituous, and rectified Substance, innate in every Body, and remaining therein, in some measure, after Death, and capable of correcting its own morbid Disposition, and that of other Bodies; and of preserving and confirming a sound State.

MUNDIFICATIO. Purification, or Depuration.

MUNDIFICATIVA. Cleansing, purifying, or deterging Medicines.

The *Mundificativum ex Apio* is describ'd under the Article *APIUM*.

The *Mundificativum Paracelsi* is thus directed.

Take

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Take of Turpentine and Honey, each half a Pound, and the Yolks of four Eggs : Boil these to the Consistence of an Ointment, adding to every Ounce, a Dram of red Precipitate of Mercury.

MUNDUBI *Brasilensibus*. Marggr. *Aracus* ὀπύαις, *Americanus*. Park. A Species of *Indian Aracus*; the Seeds of which, eaten in too large Quantities, are said to excite a Pain in the Head.

MUNDUY GUACU. A Name for the *Ricinoides*; *Americana*; folio *Gossypii*.

MUNGO. A Name for the *PHASEOLUS, OCTOCAULIS*.

MUNTINGIA.

The Characters are;

It hath a Rose-shap'd Flower, consisting of several Leaves, which are placed in a circular Order, from whose Cup arises the Pointal, which afterwards becomes a globular, soft, fleshy, umbilicated Fruit, in which are contained many small Seeds.

Miller mentions three Sorts of this Plant; which are,

1. *Muntingia folio sericeo, molli fructu majori. Plum. Nov. Gen.*
2. *Muntingia folio Ulmi aspero, fructu minimo glomerato. Plum. Nov. Gen.*
3. *Muntingia folio Corni, fructu minore. Plum. Nov. Gen.*

These Plants, all of them, grow in *Jamaica*, and several other Parts of *America*. They were discovered by Father *Plumier*, who gave them the Name from Dr. *Muntingius*, who was Professor of Botany, at *Groningen* in *Holland*, so that we have no *English* Name for them. *Miller's Dictionary*, Vol. 2.

MURÆNA. The Lamprey. See *LAMPETRA*.

MURALIS HERBA. Pellitory of the Wall. See *PARIE-TARIA*.

MURECI. The Name of a bacciferous Tree, which grows in *Brasil*, whose Fruit is like the Gooseberry, of which the *Indians*, in *Brasil*, made cathartic Potions. *Raii Hist. Plant.*

MUREX. A Species of Purple Fish. The Fish is said to be aperitive; and the Shell is us'd as an Absorbent, when reduced to Powder.

MURIA, Brine, produces the same Effects with Salt, and is of an abstergent Quality. It is successfully used by way of Clyster, in dysenteric Patients, whose Intestines are corroded. It is, also, properly used in the same manner against sciatic Pains of long Standing. In Fomentations, it may be used as a Succedaneum for Sea-water. *Dioscorid. Lib. 5. Cap. 128.*

Brine is used, in Surgery, as a Fomentation in Inflammations, and Gangrenes. Hence, an Acrimony in the Juices, resembling that of Brine, is call'd a *Muriatic Acrimony*.

MURMENTUM. A Name for the *MUS ALPINUS*. *Ru-landus*.

MURRHA. A Name for the Chalcedony.

MURUCUGIFERA ARBOR. De Lact. The Name of a very tall Tree, which grows in *Brasil*, like the wild Pear-tree.

MURUCUIA. A Name for the *Granadilla*; *pentaphyllos*; flore *ceruleo, magno*; and for the *Granadilla*; *Hispanis*; flos *Passionis Italis*.

MUS. Offic. Gesn. de Quad. Digit. 714. Charlt. Exer. 25. *Mus domesticus*. Schrod. 5. 303. Mer. Pin. 167. *Mus domesticus minor*. Aldrov. de Quad. Digit. 417. Schw. de Quad. 114. *Mus domesticus vulgaris seu minor*. *Raii Synop. A. 218.* THE MOUSE.

The whole Animal, and its Dung, are used in Medicing. The Mouse, cut up alive, and apply'd, draws out Splinters, Darts, and Arrows, and cures the Bites of Scorpions, extracting the Poison; the Ashes cure the involuntary, or nocturnal Flux of Urine; the Dung purges Infants by Stool, is used in Clysters, cures an Alopecia, absterges Scurf from the Head, diminishes Stones in the Kidneys or Bladder, and removes a Condyloma, Verruca, Ficus, Marisca, and the like Tumors affecting the Anus. *Dale* from *Schroder*.

MUS ALPINUS. Offic. Schrod. 5. 303. Aldrov. de Quad. Digit. 445. Gesn. de Quad. Digit. 743. *Mus alpinus*, *Marmota*. Charlt. Exer. 19. *Mus alpinus Plinii, Marmota Italis*. *Raii Synop. A. 221.* THE MOUNTAIN MOUSE.

It lives in the highest Parts of the *Alps*, and the Fat is used, being recommended in nervous Affections, and for Stiffness and Contractions of the Joints. *Schroder*.

MUS ARANEUS. Offic. Schrod. 5. 303. *Raii Synop. A. 239.* Aldrov. de Quad. Digit. 441. Charlt. Exer. 25. Gesn. de Quad. Digit. 747. *Mus araneus*. Aldrov. de Quad. 116. Schw. Quad. 114. Mer. Pin. 167. THE ERD-SHREW, HARDY-SHREW, or SHREW-MOUSE.

It is an Inhabitant of the Fields, and has been found by Experience to be peculiarly serviceable in Affections of the Anus, being burnt, and apply'd with the Fat of a Goose. *Dale*.

MUS MAJOR. Offic. *Mus domesticus major*. Schw. Quad. 115. *Mus major, five Sorex*. Mer. Pin. 167. *Mus major*. Aldrov. de Quad. Digit. 417. *Mus major, Rattus*. Schrod. 5. 303. *Mus domesticus major five Rattus*. *Raii Synop. A. 217.* *Sorex domesticus*. Charlt. Exer. 25. THE RAT.

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The Part in Use is the Dung; nine Pieces of Rat's-dung, swallowed, are accounted, by some of our good Women, a singular Remedy for a Suppression of the Menstrues. *Dale* from *Platensis*.

MUSA.

The Characters are;

The Root sends forth Shoots, while the Stalk, after producing its Fruit, decays. The Stalk is like a Reed, without Branches, but running into very large Leaves, which are first convolved, as in the *Cannarorus*, and afterwards expanded in the Form of a Circle at the Top of the Stalk. The Flowers and Fruit are dispos'd in Clusters, and inclosed in Sheaths, as in the *Palma*, or *Date-tree*; the Flower is polypetalous, anomalous, and grows on the Apex of the Ovary. The Ovary is like that of a Cucumber, soft, tri-capsular, esculent, full of Seeds, and furnished with a long Tube, which has a globular Apex.

Boerhaave mentions two Species of this Tree; which are,

1. *Musa*; fructu cucumerino, longiori. *Boerb. Ind. A. 2. 171.*
- Musa*. Offic. *Musa Serapionis*. Ger. 1332. *Linac. 1515.* *Musa Arbor*. J. B. 1. 148. Park. Theat. 1495. *Raii Hist. 2. 1314.*
- Musa ex flore Siquensi*. *Jonst. D. Icon. 470.* *Mauz, Musa. Alpin.*
- Ægypt. 78.* *Palma humilis longis latisque foliis*. C. B. P. 508.
- Ficus Indica racemosa, foliis & fructu amplissimis, Musa Arabibus dicta*. Pluk. *Almag. 145.* *Bala*. Hort. Mal. 1. 17. Tab. 12.
- Sec. Banana*. Pif. (Ed. 1648.) 75. THE PLANTAIN-TREE.

It grows in both *Indies*, and the Fruit is used, which is very nourishing, provokes Urine, and stimulates to Venery.

Musa is the *Arabic* Name for this Plant, which by *Pliny*, as we suppose, is called *Pala*, from the Word *Bala*, which is the Name by which it is known to the *Malabarians* at this Day. Tho' all Botanists reckon it among Trees, it hardly deserves the Name of a Shrub, much less of a Tree, since it has an annual Stalk. By *Ovidius*, and others, it is called *Platanus*; whence comes our *English* Name, the Plantain-tree; unless we should rather think it was so called from its Resemblance to Plantain, in its ribbed and fibrous Leaves.

The Fruit is esteemed delicious Food; and, they say, was never known to create any Disorder, tho' eaten never so freely. *Linshooten* says, that it has a sweet Taste like Flour and Butter mixed together; and, therefore, may supply the Place of Bread and Milk-meats, with a simple kind of Diet, by which the human Body may be supported without any other Food.

As to its Virtues, *Alpinus* speaks thus: The Fruit is of a soft, viscid, fat, and sweet Substance, extremely grateful to those who use to eat it, and very nourishing, but burdensome to the Stomach, difficult of Digestion, and generates a thick and viscid Juice, which causes Obstructions of the Viscera, and especially of the Liver; it is, however, beneficial in a Cough, and an Asthma proceeding from Heat. The *Egyptians* use the Decoction with good Success in a Cough, excited by a Distillation of hot Humours, and for Inflammations of the Pleura, Lungs and Kidneys, and for a Dysury; it is, also, said to stimulate to Venery, eaten raw or boiled.

The Authors of the *Hortus Malabaricus* tell us, that the Root bruised, and taken in Milk, cures the Vertigo; that the Water of it, mixed with Sugar, is drank with good Success, for a burning Heat of the Kidneys, and for Pains excited by the Urine; and relieves those whose Bodies have been infected with Quicksilver. The Pith of the Tree, or the whitish medullary Substance, which bears the Fruit, being bruised, and taken inwardly with Honey, is good for Affections of the Eyes, as in also Butter, in which Slices of the Fruit have been fry'd.

It grows in all Parts of the *East* and *West Indies*, and also in *Africa*. The *Ficus Indica* of *Linshooten* I take to be only a Variety, not a Species, of the *Musa*; for it appears to be the same with that described by the Authors of the *Hortus Malabaricus*, both from the Synonyma, and the Place where it grows; for the *Malabarians*, he says, call it *Palan*, and those of *Bengal*, *Quelli*, which are Names much like the *Bala* of the *Hortus Malabaricus*, and *Keli*. Among the Species, also, or Varieties, I find one, both in the *Hortus Malabaricus*, and in *Linshooten*, called *Cadalm*.

The Leaves, which are an Ell long, and three Spana broad, or, according to *Lerius*, six Feet long and two broad, equal in Dimensions to those of the *Lapathum Aquaticum*, supply the *Indians* at *Goa* with much useful Furniture for their Houses, and the *Turks* make use of them instead of Paper; a Shoot is often loaded with a hundred Plantains, cluster'd together like Grapes; and the Branches, from whence they hang, often grow to such a Bigness, that, when lopped off with the Fruit, they can hardly be carry'd upon a Pole between two Porters. The Plant bears Fruit all the Year, and supplies the *Indians* with Provision every Day. *Raii H. P.*

The Leaves of the *East Indian* Plantain-tree are sometimes so large, that a Man may cover his whole Body with one of them, and are said to be those with which *Adam* and *Eve* cover'd their Nakedness; which seems more probable, than that they should make use of the Leaves of the common Fig-tree for that Purpose, as represented by the Painters. The whole Stem or Trunk of the Plant consists of Leaves placed one upon another,

another, almost like those of the Palm-tree. *Hist. Plant. adscript. Boerhaav.*

2. Musa; caudice maculato; fructu recto, rotundo, brevior odorato. *Sloan. 192. Boerb. Ind. alt. Plant. Vol. 2.*

MUSADI. Sal Ammoniac.

MUSARIUM *Collyrium*. The Name of a *Collyrium* describ'd by *Trallian*, L. 2. C. 10.

MUSCA. Offic. Schrod. 5. 344. Aldrov. de Insect. 342. *Musca carnaria vulgaris*, Raii Insect. 270. *Musca carnivora*, in *macellis usitata*. Mer. Pin. 199. THE FLY.

There are various Species of Flies, but the common Sort are most generally us'd, and these prevent a Falling off of the Hairs. *Schrod.*

MUSCARI. Musk or Grape Hyacinth.

The Characters are;

It hath a bulbous Root; the Leaves are long and narrow, the Flower is hermaphroditical, consisting of one Leaf, and shap'd like a Pitcher, and cut at Top into six Segments, which are reflex'd; the Ovary becomes a triangular Fruit, divided into three Cells, which are full of round Seeds.

Boerhaave mentions twelve Species of this Plant, none of which have any medicinal Virtues ascrib'd to them, that I know of, except the first, which is the *Muscari*; *obsoletiore flore, ex purpurâ virente*; for which see *BULBUS VOMITORIUS*.

MUSCATELLA. A Name for the MOSCHATELLINA.

MUSCERDA. Mouse-dung. See *MUS*

MUSCIPETA. The Name of a small Bird, remarkable for little besides destroying Flies. 'Tis, however, said to be aperitive and resolvent.

MUSCIPULA. See *LYCHNIS*.

MUSCO-FUNGO. A Name for several sorts of *LYCHNIS*.

MUSCOSÆ GLANDULÆ. Some of the conglobate Glands are thus call'd, to distinguish them from the conglomerate Glands, which are call'd *Glandulæ Vasculosæ*. *Castellus*.

MUSCULUS. A Muscle.

All the Motions of the human Body, whether general or particular, whether natural or preternatural, are immediately performed by Organs which Anatomists name Muscles; and these are found in all the moveable Parts of the Body. I do not here speak of Motions caused merely by the Elasticity of certain Parts, by certain Impulses, or by the Force of Gravity.

The Muscles, in general, are Bundles of Fibres of different Figures and Sizes, and, for the most part, consisting of two different Portions; one of which is, thick, soft, more or less red, and sometimes pale, forming what is called the Body, fleshy Substance, or Belly of the Muscle. The other is thin and small, of a close Texture, and very white, forming the Extremities, and other Parts termed by Anatomists, Tendons or Aponeuroses. The fleshy Portion is the principal and essential Part of the Muscle, being never wanting; but the tendinous or aponeurotic Portion is in some Muscles so very small, as to be invisible. Both Portions are covered by a particular Membrane.

The Antients, who compared a Muscle to a Rat, or other Animal, slayed, divided it into the Head, Belly, and Tail; but the Moderns, finding this Comparison very lame and faulty, have left off the Use of all these Terms, except that of Belly; and, instead of the other two, they use those of Beginning, or Origin, and Insertion. Some of the latest Authors think it most proper to call one End of the Muscle, the fixed Point, or Fulcrum, the other the moveable Point.

All these Terms, whether old or new, tend to mislead us, and that of Fulcrum is without Foundation. The best and most simple Division of a Muscle is into the Body or fleshy Portion, which, in some Muscles, may be termed the Belly, and the Extremities, whether tendinous, aponeurotic, or fleshy.

The Fibres of which a Muscle is made up, go by the general Name of moving Fibres; and each of them, as well as the whole Muscle, is partly tendinous, and partly fleshy. They are, for the most part, ranked in Fasciculi, in a lateral Situation, with respect to each other, and distinguished by membranous, cellular, or adipose Septa, as by so many particular Vaginae.

These Fibres are connected to each other, and to the intermediate Septa, by a great Number of very small, fine Filaments, the capillary Extremities of Arteries, Veins, and Nerves running over them, and they are inclosed in a thin, membranous, cellular Covering, called the proper Membrane of the Muscle, being a Continuation of the Septa or Vaginae already mentioned.

All these Septa or Vaginae communicate with each other by a mutual and reciprocal Continuation of their cellulous Texture, and they are bound down transversely by filamentous or fibrous Pellicles, which cross them at small Distances from one another, and lie nearly in the same Direction through the whole Body of the Muscle. The same sort of Fræna are observable between the moving Fibres, which connect them together, and appear to be, in some measure, nervous.

The particular Structure of each moving Fibre is not as yet sufficiently known. They may all be divided into several smaller Fibrillæ; and the Substance of their fleshy Portion is believed by some to be cellulous, and by some to be vesicular, and by

others to be spongy or medullary. Some of the Antients imagined this Portion to be hollow, and that it contained a sort of Pulp called by them *Tomentum*, more or less saturated with Blood.

When we examine a moving Figure through the best Microscopes, both the fleshy and tendinous Parts appear contorted, but the latter not so much as the former. Having injected any coloured penetrating Liquor, we may, by the Help of an ordinary Microscope, discover a very fine and close vascular Net-work, which insinuates itself between all the Fibres, covering or being twisted round them, and likewise spread on the Septa.

The fleshy Portion may be contracted or shortened, and relaxed or elongated. The tendinous Portion yields but very little, resisting any Force tending to prolong it, except it be so violent as to disorder its Texture.

The Disposition of the moving Fibres is different in different Muscles, and their tendinous and fleshy Portions do not always lie in the same streight Line, but make opposite Angles with each other. In some Muscles, the fleshy Portion is not all of the same Length, in others it is nearly equal, but the Fibres unequally and gradually disposed at the Sides of each other, forming all together an oblique Plane.

Some are disposed like Radii, others form Planes more or less incurvated; and some form complete Circumferences, the two Extremities meeting and uniting together.

The tendinous Portions, being only the Supplement of the whole Length of the Muscle, may be of equal or unequal Lengths, according to the Disposition of their Insertions. They may be very short at one End of the Muscle, and very long at the other. When the fleshy Plane is partly oblique, they vary gradually in Length; and, when that Obliquity is reciprocal at both Ends, in form of a Lozenge, the tendinous Portions are alternately long and short.

In some Muscles each moving Fibre is nearly of the same Length with the Body or Belly of the Muscle; in others the fleshy Fibres are very short, though the Body of the Muscle formed by them be very long. In the first Kind, the Fibres run more or less streight from one End to the other, and are never very numerous. In the second, they are situated obliquely, and are consequently in great Numbers; so that the Length of each Fibre is not always to be measured by that of the Body of the Muscle to which it belongs.

These different Portions of Fibres are not equally to be met with in all Muscles. Some have two or more Tendons, some only one, but of different Lengths; others have none at all, or at least none that can be perceived.

But there is no Muscle without a fleshy Portion, which alone being capable of Contraction is absolutely necessary; whereas the Tendons in many Places are only Productions, by which the Muscles are fixed to Parts at a Distance from them.

Many Muscles are observed to be covered by an aponeurotic Expansion of different Degrees of Strength and Size, which seems to arise from one or more of the neighbouring Tendons. In proportion as it is extended it grows thinner, and then loses itself in the cellular Membrane, called formerly the common Membrane of the Muscles.

There are likewise strong ligamentary Membranes of another Kind, by which many Muscles are covered, as by a Girth, and which may be termed broad or ligamentary Bands or Coverings. They are made up of several Planes of strong white shining Fibres, crossing each other; and they are strongly fixed along one or more Bones, almost in the same manner as the interosseous Ligaments of the Fore-arm and Leg. They furnish Septa or common Vaginae to the Muscles, which they cover, and likewise particular Vaginae to the Tendons, thinner than those of the fleshy Portions.

These common Bands and Vaginae serve to gird and confine the Muscles, and to keep them in their Places in great Efforts. They likewise, in some measure, supply the Place of Tendons, and multiply the Insertions. The loose Portions of these Membranes are lined on the Inside with other very fine Membranes which are continually moistened by a mucilaginous Liquor, to preserve the Muscles and Tendons contiguous to them, from Friction.

Besides these Bands and Septa, there are other ligamentary Fræna peculiar to the long Tendons, called by the Name of annular Ligaments; the general Description of which see under *LIGAMENTA*.

The Difference of Muscles is very considerable, and depends on many Circumstances, the principal of which are the Size, Figure, Direction, Situation, Structure, Connection, and Use; and it is from these Differences that the Names of the greatest Part of the Muscles are taken. From their Size they are termed Great, Middle, Small, Long, Broad, Thin; from their Figure, Triangular, Scalenous, Square, Rhomboidal, Indented, Orbicular, Deltoide; from their Direction, Streight, Oblique, Transverse; from their Situation, Superior, Inferior, External, Internal, Anterior, Posterior, Right, and Left. These four Differences, and the Names derived from them, are easily comprehended

hended ; but what relates to the other three, requires a little further Explication,

As to their Structure; Muscles are either simple, or compound. Simple Muscles are those whose fleshy Fibres, or rather the fleshy Portions of their moving Fibres, are all uniformly disposed, and terminate in Tendons, lying either in a straight, or an oblique Line, in the manner already explained.

Compound Muscles are those whose fleshy Fibres are dispos'd obliquely, in several particular Ranks, representing the same Number of simple Muscles, with their Fibres lying in opposite Directions. In proportion to the Number of these Ranks, or Series, the Muscle is said to be more or less compounded.

When the compound Muscle is made up of two simple Muscles only, these are so disposed as to represent a Feather, and the compound Muscle is from thence termed Penniform. In some of these Muscles one of the Tendons appears to be slit or divided, in order to contain the fleshy Portion between its two Parts, while the other runs through the Body of the Muscle, diminishing gradually in Size as it advances, in the same manner as we see in a Feather. In others, there is only one middle Tendon between the Series of fleshy Fibres, which are, by their other Extremity, fixed to other Parts. In more compound Muscles, the Tendons at one Extremity may all unite together, while those at the other remain divided.

But there are still other Kinds of compound Muscles. Some are made up of two, placed Endwise, and joined together by a common Tendon ; so that this Tendon, the two Muscles and the two Tendons at their Extremities, lie all in a Line, and form the whole Length or Extent of the compound Muscle, which is termed Digastricus, or Biventris ; and, if three Muscles be thus joined, the Compound is called Trigastrius.

Some are made up of two Muscles, more or less, in a lateral Situation with respect to each other, and united at one Extremity ; others are made up of three or four Muscles, situated in the same manner ; and, if they are united to that Extremity which the Antients call the Head of the Muscle, they are call'd Bicipites, Tricipites, &c. according to the Number of these Heads ; but, if they are joined at the other Extremity, they are called Bicornes, Tricornes, &c.

The Muscles are fixed, by their Extremities, to different Parts, and in different Places, of the human Body. The greatest Part of them are inserted in Bones alone. Some are fixed partly to Bones, and partly to Cartilages, as those of the Ear and Nose ; some partly to Bones, and partly to the Integuments, as several Muscles of the Face, which may, therefore, be termed Semicutaneous, in Imitation of those in Brutes, which, being inserted in the Integuments alone, are from thence term'd Cutaneous. In some the Fibres make an entire Circle, without terminating any-where by their Extremities. Of this Kind are several of those called Sphincters, to which may be added the Heart, Stomach, and Intestines. All the Muscles have, likewise, a sort of Connection with the neighbouring Parts ; but this is only lateral by means of Membranes.

The Names taken from the Connections and Insertions of Muscles are generally of two Kinds ; one Common, and referred to some considerable Part of the Body, as when we say, the Muscles of the Head, of the Thorax, Abdomen, Arm, Leg, Eye, Lips, and the like ; the other Proper, specifying more particularly the Insertion of each Muscle, as the Mastoideus, Sterno-mastoideus, Coraco-brachialis, Anconeus, Peroneus, and the like. Some Names have no Relation to the Insertions, as those of Ulnaris and Radialis, which are given to Muscles which lie upon the Ulna and Radius, without being inserted in either Bone.

The Names of the first Kind relate more to the Uses of Muscles, than to their Insertions ; and are, for the most part, ill founded, and ready to mislead us ; the Names of the second Kind are instructive ; and those of the third are tolerable.

The general Use of the Muscles is to move all the Parts of the Body, whether hard, soft, or fluid. Most of the hard and soft Parts are moved by these Powers being fixed to them ; and they move the rest, without any such Insertion.

The Muscles, fixed by both Extremities to hard Parts reciprocally moveable, may accordingly move either Part : Thus the Muscles inserted by one Extremity to the Os Humeri, and by the other to the Ulna, may move the Ulna upon the Os Humeri, and the Os Humeri upon the Ulna.

Muscles, fixed by one Extremity to hard Parts, and, by the other, to soft Parts, cannot perform these reciprocal Motions ; because, in this Case, the hard Parts must remain immoveable, the soft Parts only being moved, as in the Muscles of the Ball of the Eye, and those of the Lips.

The Fluids, of whatever Nature or Consistence they be, are moved, in some Cases, by being immediately pushed or projected by the Muscles, as we see in the Heart ; in others, by the Canals being pressed upon, as in the oblique and transverse Muscles of the Abdomen. And there are other Muscles, which stop or retard the Motion of the Fluids at one time, and facilitate or accelerate it at another, as all the Sphincters.

The Use of each Muscle in particular is confined to the Motion of one or more moveable Parts. Some Parts require

a certain Number of Muscles to move them, whereof some act one Way, and some another. Several Muscles, for Instances, move the Os Humeri upon the Scapula ; and of these some raise, others depress it ; some turn it forward, some backward, and others round upon its Axis. In like manner, the fore Arm is moved upon the Os Humeri by certain Muscles, whereof some extend, and others bend it.

The general Enumeration of the Muscles of the human Body, which is commonly made, is founded on their supposed particular Uses. We meet with Lists of the Muscles of the Head, of the Thorax, Abdomen, Extremities, Eye, Nose, Lips, and the like ; and to the different Muscles, said to belong to each Part, Names are given, specifying some determinate Use, such as Raisers, Depressors, Adductors, Abductors, Flexors, Extensors, &c.

This Method of distributing and naming Muscles is very well suited to the Memory, and may be retained for those which are not entirely, or are not at all, fixed to Bones. But, with respect to those Muscles which are inserted in Bones alone, this Way of talking is very capable of misleading Beginners, of begetting false Ideas, of obstructing the Progress of Knowledge, and even of making able Philosophers, Physicians, and Surgeons, fall into considerable Mistakes.

When several concur nearly in the same Motions, they are termed Congeneres ; those which act in opposite Directions, are relatively and alternately called Antagonists. Thus all the Muscles which extend or bend the fore Arms are Congeneres ; and those which extend it are Antagonists to the Flexors, and these again reciprocally Antagonists to the Extensors.

There must, at least, be two Muscles, to intitle them to the Name of Congeneres ; but that of Antagonist may be given to one Muscle, as well as to several. Many Muscles contribute to the same Motion without being Congeneres, where, by acting in an oblique Direction, they produce a third Motion, which is direct and determinate. This is termed a combined Motion, and may be successively continued in different Directions, as that of the Arm in turning a Sling, or the Handle of any heavy Machine. Lastly, when all the Antagonists on every Side, or all the Muscles that move a Part, act equally, and keep the Part fixed in a middle Direction between all the Motions of which it is capable, they are said to be in a Tonic Motion.

To move any Part, or to keep it in a determinate Situation, all the Muscles belonging to it must co-operate, some of them drawing the Part directly to the Situation or Attitude designed ; some moderating this first Motion, by acting in a contrary Direction ; and others directing it laterally. The first Kind of these Muscles I call Principal Movers ; the second, Moderators ; and the third, Directors.

All these Kinds are to be found in the Articulations by Enarthrosis, and in many of those by Arthrodia. The Director Muscles are wanting in those by Gynglymus, being there unnecessary. The Moderators in general are the same with those termed Antagonists, and the Want of their Action is, in many Places, supplied by the Weight of the Part to which they are fixed, or by the additional Weight, or Resistance, of some other Body.

The Action of the Muscles in general, or, to speak more properly, the Mechanism of this Action, consists chiefly in the Contraction or Shortening of their fleshy Portion ; by which the Extremities of the Muscle are brought nearer to each other, and, consequently, the Parts are moved to which these Extremities are fixed. It is, I say, the fleshy Portion alone, which is shortened ; the Tendons retain always the same Length, and only follow the Motions of the other Parts, much in the same manner as in drawing a great Weight by Ropes fixed to it, where the Arm alone is shortened, while the Ropes only follow that Motion.

The principal Phenomena of muscular Action are these : The fleshy Portion appears harder and more swelled in the time of Action than of Inaction, as may be readily perceived by touching it in both States. The Hardness of this Swelling increases in proportion as the Motion is continued, as is, likewise, evident by the Touch ; and it likewise increases by merely adding to the Weight or Resistance of the Part moved, though its Situation does not continue to be changed.

In many Muscles this Action may be determined to any Degree of Velocity and Space, that is, may be proportioned to the Velocity and Space of the Motion ; may be increased, and diminished, accelerated, retarded, or stop ; and may be made to cease in an Instant, and be produced again in another Instant.

During the Contraction of a Muscle, its Fibres are bent thro' the whole Length, or formed into very small fine Folds, in alternately opposite Directions, as may be plainly seen in Animals fresh-kill'd, when the Butchers cut their Flesh while it remains warm, though the Blood has been let out, and the Entrails removed. By opening living Animals, and, also, in great Wounds, the fleshy Fibres have been discovered to grow pale during their Action, and to turn red again when at Rest.

To these Phenomena we must, likewise, add, that where several Muscles are fixed to any moveable Part, they are all in a State of Contraction, in every Motion of that Part ; but they are not all in the same Degree of Action, because the principal

Movers

Movers act more than the Moderators and Directors, or collateral Muscles, if any belong to the Part. This Co-operation of the Muscles is easily perceived by touching them, when the Part they belong to is moved with a considerable Force. It must, however, be remembered, that I except the Moderators and Antagonists when any Weight or Assistance supplies their Action.

Lastly, there are some Motions, to which the Muscles, commonly believed to produce them, contribute nothing at all, but which depend solely on the Relaxation of the Antagonists to these Muscles, or those which lie on the opposite Side. This is seen evidently in supporting the Body by one Hand, resting on a low Table, the Joint of the Elbow being in that State suffered to yield to the Weight of the Body, or to bend sometimes slowly, and sometimes fast; for if, at the same time, we feel, with the other Hand, the Flexor and Extensor Muscles of the fore Arm, the first will be found perfectly relaxed, and the latter very much contracted. Thus it is evident, that some Muscles may be relaxed to determinate Degrees of Velocity and Space, with the same Certainty as they can be contracted.

This last Phenomenon gave me room to conclude, that the Action of the Muscles in general consists as really in the Relaxation of the moving Fibres when contracted, as in the Contraction of them when relaxed, whether this Action be performed successively, or instantaneously. For this Reason, when I began to speak of the Action of the Muscles, I did not say absolutely, that it consisted in the Contraction of the fleshy Portion, but only that it principally proceeded therefrom. I do not here speak of these Motions which are out of our Power, and which one can determine only in Part, as those of Respiration; or not at all, as that of the Heart.

The particular Mechanism, or immediate Cause, of muscular Action, has very much tortured the Brains of many Philosophers. The extreme Delicacy of the Texture of a moving Fibre, and great Number of Phenomena, some of them very obvious, which have not been attended to, have hitherto prevented the Discovery of this Mystery. Several Hypotheses have been form'd concerning the Structure of this Fibre, which, as already said, has been supposed spongy, vascular, vesicular, contorted, elastic, and the like; and concerning the Concurrence of different Fluids with the supposed Structure of the Fibre: And Systems have even been founded wholly on the Spring or Elasticity of the solid Parts, of which a Muscle is composed.

But by considering attentively the Phenomena already mentioned, especially the three first, concerning the Velocity, Space, and Duration of muscular Action, all these Systems may be destroyed. For hitherto no Instance can be found either in natural Effects, or in those of Art, of any Explosion, Fermentation, Ebullition, Injection, Inflation, Imbibition, Vibration, Elasticity, &c. by which we can regulate and determine, to a given Degree, the Space, Velocity, and Duration, of any artificial Motion, or by which we can begin and put an End to such Motions, in an Instant of Time, at our Pleasure. It is therefore altogether to no Purpose to amuse ourselves with what has been said on this Subject; another Method must be followed, which consists in collecting and examining all the Phenomena that can fall under our Observation.

Till some such lucky Discovery is made, what can hitherto with the greatest Certainty be gathered from the Structure, Conformation, and Action of the Muscles, is, that their Strength depends on the Number of their fleshy Fibres, and the Extent of their Action on the Length of these Fibres.

For where-ever Strength is more necessary than large Degrees of Motion, there we find the Fibres of Muscles proportionably increased in Number, and that their Situation in a narrow Compass is artfully provided for by the oblique Disposition of them already mentioned. In like manner, where-ever there is more Occasion for a large Degree of Motion than for Strength, the fleshy Fibres are of a proportionable Length. In a Word, the Strength of a Muscle is as the Number of its fleshy Fibres, and the Extent of its Motion as the Length of these Fibres.

To understand the Uses and Contrivance of each Muscle in particular, we must consider attentively its Place or Situation in general, its internal Conformation, Insertions, particular Situation, Direction, and lateral Connection, and the Relation and Composition of its Parts. We ought, likewise, to examine how the neighbouring Muscles are disposed for producing simple Motions, and how those which are at a greater Distance, can produce combined or compound Motions.

It ought, moreover, to be observed, that in some Subjects the Muscles vary, some being wanting, and others added in different manners; so that we ought to regulate ourselves by what happens most frequently and universally, that we may not render the common Cases obscure for the sake of a few which are extraordinary, and which ought to be considered in the same Light as we do the Instance of six Fingers, eleven Ribs, and other Varieties of the like kind.

Muscles, fixed only to Bones, act as so many Powers applied to Levers. By a Lever we understand a long inflexible Body, like a Rod or Bar, by the Help of which we raise Weights, and

overcome Resistances, which it would be more difficult, or impossible, to do with the Hands alone.

A Lever, in order to act, is applied to three different things, at three different Places of its Length; at one Place to the Weight, or resisting Body, at a second to the Power by which it acts, and at a third to a Fulcrum, which, with respect to the other two, ought to be immoveable; so that the whole Length of the Lever is, as it were, divided by three Points, which may be termed the fixed Point, Point of Resistance, and Point of Powers.

These three Points may be disposed in three different manners: 1. The fixed Point may lie between the Power and the Weight; as when the Stone-cutters and Paviers raise or move Stones with Iron Croes. 2. The Weight may lie between the Power and the Fulcrums; as when Masons move large Stones by applying Croes to them, somewhere near the Middle. 3. The Power may lie between the Weight and Fulcrum, as when Braziars scrape Copper in order to tin it, by laying one End of the Scraper on their Shoulder, the other on the Metal, and holding the Middle in their Hands.

From these three Dispositions three different Kinds of Levers have been established. In the first the Fulcrum, or fixed Point, is in the middle; in the second the Weight, and in the third the Power.

In the Action of Levers, the following Maxims are to be observed as so many general Rules. The greater the Distance of the Line of Direction of the Power from the Fulcrum; less Force is necessary to overcome the Resistance. The nearer that this Line of Direction is to the Fulcrum, more Force is necessary to overcome the Resistance, or to raise the Weight. When the Line of Direction of the Power passes through the fixed Point, and consequently falls in with the Direction of the Lever, the Power can produce no Effect. See SPIRITUS ANIMALES.

MUSCUS. Moss.

Botanic Authors enumerate a great Number of Mosses, the Virtues of some of which are specified under the respective Articles of their Name.

Muscus. Offic. *Muscus Usnea*. Chab. 559. *Muscus arboreus*: *Usnea Officinarum*. C. B. P. 361. Raii Hist. 1. 114. Synop. 3. 64. *Muscus arboreus villosus*. J. B. 3. 763. Synop. 22. *Muscus arboreus vulgaris* & *quercinus*. Park. 1372. *Muscus Quercinus*. Ger. 1369. Emac. 1558. HAIRY TREE MOSS.

This Moss consists of a great Number of long, slender, hoary Strings, somewhat tough and hard, hanging down some Length from the Branches of the Trees they grow on, which are usually old Oaks: It is seldom to be met with in England, and therefore very rarely prescribed by Physicians.

It is accounted restringent and styptic, and good to stop Bleeding, and all Kinds of Fluxes. *Miller's Bot. Off.*

It has an astringent Taste, but in other respects is various; as thinner, thicker, shorter, longer, generally whitish, but sometimes, though rarely, redish, and sometimes black. It is chiefly found on Oaks, Poplars, Elms, Beeches, Apple-trees, Pear-trees, Pine-trees, Pitch-trees, Fir-trees, Cedars, Larch-trees, and many others of the most considerable Species of Trees. The Moss which grows on the Cedar, Larch-tree, Pine and Fir, is sweet-scented: The next in Value is what grows on the Poplar; the White is best; the Black is condemn'd; the Red is of a middle Kind; the least esteemed is what grows on Oaks. C. B. from *Dodonæus*.

It is found on old Oaks, and scarlet Oaks of the Wood of *Valena*, not far from *Montpelier*, whence it is brought to the Druggists; for the Powder of it is the Basis of what they call at *Montpelier*, *Pulvis Cyprinus*, or, in the vulgar Tongue, *Corps de Cypre gris*.

This Kind of Moss is very rare in England, nor do I remember, says Ray, ever to have seen it; perhaps it is more frequent in foreign Countries, though I have very rarely had the Fortune to meet with it in my Travels: Once I observed great Plenty of Moss in a Wood of old Firs in *Bavaria*, hanging down from the Boughs, which very well answer'd the Description given by *Dodonæus* of the *Muscus arboreus villosus*, and, being gather'd and reposit in Papers, dyed them of a yellow Colour, inclining to a Red, as if they had begun to be singed by the Fire; and, tho' several times removed, and put into fresh Papers, it still communicated the same Colour to them, even after many Years. If therefore, it be not found in greater Plenty at *Montpelier* than elsewhere, it could by no means be sufficient for so great a Quantity of *Pulvis Cyprinus*, as is every Year prepared and sold in that City. Besides, if this Moss, which grows on the *Quercus* and *Ilex*, be good enough to serve as a Basis for that celebrated, sweet-scented Powder of *Montpelier*, it cannot be esteemed of so little Value, as *C. Bauhine* would have it, unless, perhaps, they are obliged to make use of it for want of better; which does not seem probable, because this *Pulvis Cyprinus Montpelienfis* is esteemed the most excellent Preparation in its Kind. But, to speak the Truth, I suspect that those of *Montpelier* take for the Basis of their *Pulvis Cyprinus*, what we, with *J. Bauhine*, call the *Muscus arboreus ramosus*; and make the same Use promiscuously of the *Muscus arboreus pellatus* & *scutellatus ejusdem*, I mean what grows on the *Quercus* and *Ilex*, partly because these Mosses

Mosses

Mosses are found every-where in great Quantities, and partly because *Fer. Imperatus*, who was himself a Druggist, and perfectly well acquainted with the Ingredients of these Sorts of scented Powders, writes, that both these Species of Moss indifferently enter sweet-scented Compositions. This we write by Conjecture, not denying, but that the *Muscus arboreus* may be apply'd to the same Use, whenever it can be found.

The *Muscus capillatus longissimus* of *C. B.* seems not to differ from the foregoing Species; or, if there be any Distinction between them, it may well enough be learnt from the bare Title.

D. Sachf. writes in the *Ephemer. Germ. An. 2.* that the German Surgeons make use externally of the *Muscus arboreus*, pulverized, for repressing Hæmorrhages from Wounds. *Raii H. P.*

MUSCUS MARINUS. Offic. *Muscus maritimus capillatus Dioscoridis.* Park. 1288. *Muscus marinus capillatus Dioscoridis, & Donati.* R. H. 79. *Muscus marinus verus Dioscoridis.* Donat. p. 61. SEA-MOSS.

This Plant, which is slender, capillary, and without a Footstalk, is found in the *Adriatic* Sea. The Whole of it is used, is of an inspissating Quality, checks Congestions of Humours, and refrigerates the Parts affected with arthritic Pains. *Dioscorides.*

This Plant is taken for the *Muscus Marinus* of *Dioscorides* by *Constantine*; with whom I rather agree, than with those who take the *Corallina* of the Shops, for the *Mucus Marinus* of *Dioscorides*, which *Parkinson* takes to be the *Fucus* with a capillary Leaf of *Theophrastus.* Dale.

MUSICA. Music.

Dr. Mead in his Treatise of Poisons, speaking upon the Cure of those who were bitten by a Tarantula, by Music, remarks, that brisk Harmony excites lively Species of Joy and Gladness, which are always accompanied with a more frequent and stronger Pulse, or an increased Influx of the Liquor of the Nerves into the Muscles, upon which suitable Actions must immediately follow. And if we consider, that People in this Country are sprightly, and ready to Exercise, and that in such a State of the Fluids a slight Occasion presents a strong Species, as a greater cannot another time, the Influence of Music on the Mind will appear to be so much the more powerful and certain.

As for the Body, since it is sufficient for the Purpose of putting the Muscles into Action, to cause those Tremors of the Nerves, by which their Fluid is alternately dropt into the moving Fibres; it is all one whether this be done by the Determination of the Will, or the outward Impulsions of an elastic Fluid. Such is the Air; and that Sounds are the Vibrations of it, is beyond Dispute.

These, therefore, rightly modulated, may shake the Nerves, as really as the *Imperium Voluntatis* can do, and, consequently, produce the like Effects.

That this is so, besides what we shall add, we may be convinced by a Story, which *Mr. Boyle* relates out of *Scaliger*, of a Knight of *Gascony*, whom the Sound of a Bagpipe would unavoidably force to make Water; for this Secretion, we know, is regularly the Effect of an arbitrary Contraction of the Muscle of the Bladder.

The obstinate continuing of the *Tarantati* in this Exercise is doubtless, in a great measure, owing to the strong Opinion they have of receiving Advantage from it, being encouraged by the By-standers, and having always believed, and been told, that it was the only Cure in these Cases.

The Benefit from Music is not only their dancing to it, and so evacuating, by Sweat, a great Part of the inflammatory Fluid; but, besides this, the repeated Percussions of the Air hereby made, by immediate Contact, shaking the contractile Fibres of the Membranes of the Body, especially those of the Ear, which, being continuous to the Brain, communicate their Tremblings to its Membranes, and Vessels, by these continued Succussions and Vibrations, the Cohesion of the Parts of the Blood is perfectly broken, and its Coagulation prevented; so that the Heat being removed by Sweating, and the Coagulation by the Contraction of the muscular Fibrillæ, the wounded Person is restored to his former Condition.

If any one doubts of this Force of the Air, let him consider, that it is in Mechanics demonstrated, that the smallest Percussion of the smallest Body can overcome the Resistance of any great Weight which is at Rest; and that the languid Tremor of the Air, which is made by the Sound of a Drum, or Trumpet, may shake the vastest and strongest Edifices.

But, besides all this, we must allow a great deal to the determinate Force, and particular Modulation, of these trembling Percussions; for contractile Bodies may be acted upon by one certain Degree of Motion in the ambient Fluid, though a greater Degree of it, indifferently qualified, may produce nothing at all of the like Effect: This is not only very apparent in the common Experiment of two-string'd musical Instruments, toned both to the same Height; the Strings of the one being struck upon, those of the other will sound; and yet a much greater Motion of the Air may not cause any sensible Vibration at all in the same Chords; but, also, by the Trick which many have, of finding the Tone or Note peculiarly belonging to any Wine-

glass, and, by accommodating their Voice exactly to that Tone, and yet making it loud and lasting, they will make the Vessel, though not touched, first to tremble, and then burst; which it will not do, if their Voice be but a little either too low, or too high.

This last Consideration makes it no very difficult Matter to conceive the Reason, why different Persons, infected with this Venom, require oftentimes a different Sort of Music, in order to their Cure; inasmuch as their Nerves, and distractile Membranes, have differing Tensions; and consequently, are not in like manner to be acted upon by the same Vibrations.

Nor are we to wonder at the Oddness of this Method and Practice; for Music, although it be now-a-days applied to quite different Purposes, was anciently made great Use of, for the removing of many, and those, too, some of the most difficult and obstinate Diseases.

For this we have a famous Testimony in *Galen* himself, who tells us, that *Æsculapius* used to recover those, in whom violent Motions of the Mind had induced an hot Temperament of Body, by Melody and Songs. *Pindar* mentions the same thing; and, indeed, from hence not only the Notion, but the very Name, of Charming, seems to have taken its Origin. *Athenæus* relates, that *Theophrastus*, in his Book of Enthusiasms, says, Ichiadic Pains are cured by the *Phrygian* Harmony. This Sort of Music was upon a Pipe, and the most vehement and brisk of all the Antients knew, so that, indeed, it was said to raise those who heard it, to downright Fury and Madness; and such we have observed to be required to the Venom of the Tarantula.

But what is, besides, in this last Authority, very observable to our Purpose, is the Manner of using this Remedy; and that was by playing upon the Part affected: Which confirms what we have just now advanced, concerning the Effect of the Percussion of the Air upon the contractile Fibres of the Brain; for Piping upon any Member of the Body, cannot be supposed to do Service any other way, than by such Succussions, and modulated Vibrations, as we before mentioned. And this, indeed, *Cælius Aurelianus* agrees to, who calls this Practice, *Decantare Loco dolentia*, and says, that the Pain is mitigated and dissolved by the Tremblings and Palpitations of the Part.

Aulus Gellius not only relates this same Cure of Ichiadic Ails as a thing notorious enough; but adds, besides, out of *Theophrastus*, that the Music of a Pipe, rightly managed, healed the Bites of Vipers.

And not only does *Apollonius* mention the Cure of Distractions of the Mind, Epilepsies, and several other Distempers, this same Way; but *Democritus*, in his Treatise of *Plagues*, taught, that the Music of Pipes was the Medicine for most Diseases; which *Thales* of *Crete* confirmed by his Practice, when, sent for by the *Lacedæmonians* to remove from them the Pestilence, he did it by the Help of Music.

All which Instances evince this Remedy to have been very ancient, in many Cases; and indeed, as *Cælius Aurelianus* takes notice, that the first Use of it was ascribed to *Pythagoras* himself, so he having settled and founded his Sect in those very Parts of *Italy*, which are the Country of the Tarantula, going then under the Name of *Græcia Magna*, now *Calabria*, it is not, I think, at all improbable, that he may have been the Author and Inventor of this Practice there, which has continued ever since; especially, since *Iamblichus* affirms, not only that he made use of Music in Physic; but particularly, that he found out and contrived some Harmonies to ease the Passions of the Mind, and others for the Cure of Bites.

This History of the Effects of Music in Medicine, however ingenious, with respect to the Cure of that Distemper, caused by the Tarantula, must be of less Weight, if, as there is some Reason to believe, this Disorder is only imaginary; and the Notion of its prevailing in some Parts of *Calabria*, only founded on a vulgar Error, and a Tradition handed down from Father to Son, from Time immemorial. See TARANTULA.

MUSTELA. Offic. *Schrodr.* 330. *Mer. Pin.* 190. *Bellon. de Aquat.* 130. *Mustela fluviatilis.* *Aldrov. de Pisc.* 577. *Gesn. de Aquat.* 601. *Charlt. de Pisc.* 40. *Raii Synop. Pisc.* 61. *Mustela fluviatilis, nostratibus EEL-POUT nomine a Belgis mutato, & BURBOT Gallico vocabulo dicta.* *Ejusd. Ichth. p.* 125. *Mustela altera.* *Schonef. Ichth.* 49. THE EEL-POUT, or BURBOT.

This Fish is found in Rivers, and its Liver, Stomach, and Spine, are used. The Liver, when suspended in a Glass Vessel, and exposed to a due Degree of Heat, is colliquated into a yellow Liquor greatly beneficial in Specks of the Eyes, and Dimness of Sight. The Stomach is highly recommended against Disorders of the Uterus; but, when drank in some proper Liquor, is principally beneficial in expelling the Secundines, and removing Colics. The Spine, when reduced to a Powder, is said to cure the Epilepsy. *Schrodr. Dale.*

MUSTELA. Offic. *Charlt. Exer.* 20. *Gesn. de Quad. Digit.* 752. *Mer. Pin.* 167. *Schw. Quad.* 116. *Mustela vulgaris.* *Aldrov. de Quad. Digit.* 307. *Jons. de Quad.* 105. *Raii Synop. A.* 195. THE WEASEL.

This

This Animal itself is used, when disemboweled, preserved in Salt, and dried in the Shade. Its Stomach is, also, used. Two Drams of the Animal, prepared in the manner above-mention'd, and drank in Wine, are an instantaneous Remedy against the Venom of all Kinds of Serpents; and against Poisons, taken internally. The Stomach, when filled with Coriander-seeds, and preserved for a due Time, if drank in some proper Liquor, is beneficial in Epilepsies, and Wounds inflicted by Serpents. This Animal, when burnt in an Earthen Vessel, is serviceable in arthritic Pains. Strumous Swellings are lessened by being anointed with the Blood of this Animal, or its Ashes mixed with Vinegar. These are, also, beneficial in Epilepsies. *Dioscorides. Dale.*

MUSTELUS. The Hound-fish. See GALEUS.

MUSTUM. Must. The Juice of the Grape before it has undergone Fermentation.

MUSTUS. The white Calx of Urine. *Rulandus.*

MUSULA, MUSSELA, or MUSSULA. The black Weasel, which, according to *Paracelsus*, excites the Epilepsy.

MUTELLINA. See MEUM.

MYACANTHA. Butchers-broom. See BRUSCUS.

MYAGRO AFFINIS. A Name for the *Rapistrum*; *arvense*; *folio articulato*; *acuto*: And for the *Turritis*; *folio Leucoii*.

MYAGRO SIMILIS. A Name for the *Rapistrum*; *arvense*; *folio auriculato*; *acuto*.

MYAGRUM.

The Characters are;

It has a turbinate Fruit, like an inverted Pear, uncapular, pressing in the Stalk, containing one Seed, with two empty Cells.

Boerhaave mentions two Species of this Plant; which are,

1. Myagrums; monospermum, latifolium. C. B. P. 109. *Prod.* 52. T. 211. *Raphanistrum, monospermum, latifolium, filiculis jungens, glabris, auriculatis.* M. H. 2. 267.

2. Myagrums; ex Sumatra & Syria; semine spinoso, simili capiti aviculæ. *Zanon.* 142. *Rosa Hierichuntica alia.* *Camer.* 1c. 42. *Boerb. Ind. alt. Plant. Vol. 2. p. 2.*

This Plant is possessed of the same Virtues with the *Rapistrum*, but is not recommended for any particular Purpose. The Oil, however, obtained from it by Expression, is excellent for rendering the Skin soft and smooth. *Hist. Plant. adscript. Boerhaav.*

MYAGRUM MAJUS. A Name for the *Alysson*; *segetum*; *foliis auriculatis, acutis.*

MYAGRUM, *siliqua longa.* A Name for the *Turritis*; *folio Leucoii.*

MYAX, *μύαξ.* The same as MYTULUS; which see.

MYCE, *μυκή*, or MYSIS, *μύσις*, from *μύω*, to wink, shut up, or obstruct. A Winking, Closing, or Obstruction. It is applied to the Eyes, to Ulcers, and to the Viscera, especially the Spleen, where it imports Obstruction.

MYCES, or, MYCE, *μύκης*, or *μύκη*. In Botany it imports a Fungus. In Surgery, it is a Fungus which arises in Wounds or Ulcers.

MYCHTHISMOS, *μυχθισμός*, from *μύζω*, to mutter, or groan. In *Hippocrates, Conc. 1. rhenot.* 519 it signifies a sort of Sighing, or Groaning, during Respiration, whilst the Air is forced out of the Lungs.

MYCONOIDES, *μυκονοειδής*. An Epithet for an Ulcer, which is full of Mucus.

MYCTERES, *μυκτῆρες*. The Nostrils. *Mycter*, *μυκτῆς*, is used to signify the Nose.

MYDESIS, *μύδσις*, from *μύδω*, to abound with Moisture. This imports, in general, a Corruption of any Part from a redundant Moisture. But it is applied, particularly, to the Eye-lids, by *Galen*.

MYDON, *μύδων*. Fungous Flesh in a fistulous Ulcer. *J. Pollux.*

MYDRIASIS, *μυδρίασις*. A Disease of the Eye, consisting in the preternatural Dilatation of the Pupil, and a consequent Dimness.

MYDROS, *μύδρος*, in *Hippocrates*, is a Ball of Iron, or a Stone, which is directed to be heated in the Fire, and quenched in Urine for a Fomentation, *de Morbis Mulierum, Lib. 2.*

MYGALE, *μυγάλη*. A Name for the Mus Araneus.

MYLACRIS, *μυλακρίς*. The Patella. *Gorræus.*

MYLE, *μύλη*. The Patella, or a Mole of the Uterus.

MYLOGLOSSI. Two Muscles of the Tongue, thus called, because they arise from the Roots of the Dentes Molares. See LINGUA.

MYLOHYOIDÆL. The two Muscles of the Os Hyoides. See LINGUA.

MYLOPHARINGÆUS. The Name of a Muscle of the PHARYNX; which see.

MYLON. A Disorder of the Eye. See OCVLUS.

MYLOS. The Name of a Sea-fish, mentioned by *Galen*. It is a kind of Cray-fish.

MYOCEPHALUM. A small Tumor in the Uvea Tunica of the Eye, like the Head of a Fly, from *μύια*, a Fly, and *κεφαλή*, an Head.

MYODES PLATYSMA. A muscular Expansion in the Neck, from *μύς*, a Muscle, and *πλατύς*, broad. See CAPUT. It is called *Quadratus Genæ*.

MYOLOGIA. A Treatise or Description of the Muscles; from *μύς*, and *λόγος*, a Discourse.

MYOPIA, or MYOPIASIS. Short Sight, a Disorder of the Eyes; from *μύω*, to shut, and *ὤψ*, the Eye; because People so affected generally half-shut their Eyes, when they look intensely on an Object.

MYOPS. A Person who is short-sighted, or cannot see at a Distance.

MYOSOTIS. Mouse-ear-chickweed.

The Characters are;

It resembles the *Alfina* in every respect; only the Flower is larger, and the Fruit, which is like the Horn of an Ox, opens at the Apex.

Boerhaave mentions six Species of this Plant; which are,

1. Myosotis; Hispanica; segetum. T. 245. *Alfina corniculata.* *Clus. H.* 184. *Lychnis segetum, minor.* C. B. P. 204.

2. Myosotis; hirsuta; altera; viscosa. T. 245. *Alfina, altera, viscosa hirsuta.* C. B. P. 251.

3. Myosotis; incana; repens. T. 244. *Lychnis, incana, repens.* C. B. P. 206. *Ocymoides, Lychnitis, radice reptante.* J. B. 3. 353.

4. Myosotis; tenuissimo folio rigido. T. 245.

5. Myosotis; Alpina; latifolia. T. 244. *Caryophyllus holostius, Alpinus, latifolius.* C. B. P. 210. *Prodr.* 104.

6. Myosotis; Orientalis; perfoliata; folio Lychnidis. T. C. 18. *Boerb. Ind. alt. Plant. Vol. 1. p. 219.*

This Plant derives its Name from the Greek Words *μύς*, a Mouse, and *ὤς*, an Ear; because it has hairy Leaves, and grows longitudinally, like a Mouse's Ear. *Hist. Plant. adscript. Boerb.*

MYOSUROS.

The Characters are;

The Root is annual; the Leaves are gramineous, like those of the *Coronopus*, but not lacinated; the Calyx is quinquefolious, each Leaf being furnished with an Appendix, tending downwards; the Floscules are herbaceous, and furnished with a great Number of Stamina, which proceed from the Circumference of the Bottom of the Ovary; the Seeds are disposed in a long Spike.

Boerhaave mentions but one Species of this Plant; which is,

Myosuros. *Offic. J. B. 2. 512. Raii Hist. 2. 1332. Synop. 3. 251. Boerb. Ind. A. 2. 202. Cauda Muris. Ger. 345. Emac. 426. Holosteum Loniceri Cauda Muris vocatum. Park. Theat. 500. Holosteum affinis Cauda Muris. C. B. P. 190. Ranunculus gramineo folio, flore caudato, seminibus in capitulum spicatum congestis. Tourn. Inst. 293. MOUSE-TAIL.*

This Herb flowers in May, and is found in the Fields, and by the Way-sides. The Whole of it is used, and by some thought to be possessed of the same Virtues with Plantain and the *Coronopus*. *Dale.*

MYOTOMIA. A Dissection of the Muscles; from *μύς*, a Muscle, and *τέμνω*, to cut.

MYRACOPON, *μυράκοπον*. An Epithet for a sort of Ointment recommended against Lassitude, by *Galen, de C. M. P. G. Lib. 7. Cap. 12.*

MYRICA. A Name for the *Tamariscus, Narbonensis.*

MYRINGA, or MYRINX. A barbarous Word, importing the Membrane of the Tympanum in the Ear.

MYRIOPHYLLON. *Offic. Millefolium aquaticum. Ger. 678. Emac. 827. Raii Hist. 1. 459. Millefolium aquaticum vulgatum. Park. Theat. 1256. Millefolium aquaticum umbellatum capillaceo brevique folio. C. B. P. 141. Millefolium aquaticum Feniculo simile umbelliferum. J. B. 3. 8. WATER-FENNEL.*

This Plant is produced in marshy Soils, and flowers in the Month of April. The Whole of it is used, and is thought to be possessed of a vulnerary Quality. *Dale.*

MYRIOPHYLLON aquaticum minus. A Name for the *Potamogeton*; *flosculis ad foliorum nodos.*

MYRIOPHYLLON, *equiseti folio fluviale.* A Name for the *Hottonia.*

MYRISTICA NUX. The Nutmeg. See NUX MOSCHATATA.

MYRITES. A Name for the *Caucalis*, in *Oribasius's Medic. Collect. Lib. 11.*

MYRMECIA, *μυρμήκια*. A sort of Wart about the Size of a Lupine, with a broad Base, deeply rooted, and very painful. It grows on the Palms of the Hands, or Bottoms of the Feet. *Celsus, Lib. 5. Cap. 28. See NÆVUS.*

MYRMECITES. A sort of Stone, mentioned by *Pliny, Lib. 37. Cap. 11.* thus called, because it has the Figure of an Ant (*μύρμηξ*) naturally impressed upon it.

MYRMECIZON, *μυρμηκίζων*. An Epithet for a sort of Pulse, the same as FORMICANS; which see.

MYRMECALEON. An Insect, called the Lion-pismire, more famous for its Oeconomy, and taking its Prey, than any medicinal Virtues. It is, however, said to be emollient and resolutive, applied externally.

MYROBALANI. Myrobalans.

These are Fruits of the Plum Kind, which grow in the East Indies.

Indies. They were much used by the *Arabian* Physicians, and their Successors, till of late Years; but, at present, they are much out of Use, and seldom prescribed. There are five Sorts, the Indica, Citrina, Chebula, Bellerica, and Emblica.

The Indica is thus distinguished;

Myrobalanus Indica, nigra. *Offic.* *Myrobalanus Indica*. Ger. 1316. Emac. 1500. Raii Hist. 2. 1531. Park. Theat. 246. *Myrobalani nigrae octangulares*. G. B. P. 445. *Myrobalani Indicae, nigrae, sine nucleis*. J. B. 1. 204. INDIAN, or BLACK MYROBALANS.

This is a slenderer and narrower Fruit than any of the following, having a Shew of eight Ridges, though to be discerned but in a few of them; they are hard, tough, and black, both Inside and out, of a rough austere Taste. *Miller's Bot. Off.*

The Citrina is thus distinguished;

Myrobalanus, Citrina flava. *Offic.* *Park. Theat.* 206. *Myrobalanus*. Ger. 1316. Emac. 1500. Raii Hist. 2. 1531. *Myrobalani teretes, Citrini, bilem purgantes*. C. B. P. 445. *Myrobalani Citrini*. J. B. 205. CITRON, or YELLOW MYROBALANS.

This is about as big as an ordinary Plum, of an oval Shape, having five remarkable Ribs, standing up high. It has a pretty thick Bark, and under it a large, pentangular, hard Stone, sharp-pointed at both Edges: It is of a styptic restraining Taste. *Miller's Bot. Off.*

The Chebula is thus distinguished;

Myrobalanus Chebula. *Offic.* Ger. 1316. Emac. 1500. Park. Theat. 206. Raii Hist. 2. 1531. *Myrobalani maximi, oblongi, angulosi, pituitam purgantes*. C. B. P. 445. *Myrobalani Chebulae citrini similes, nigricantes*. J. B. 1. 205. CHEBULE MYROBALANS.

This is the largest and longest of all the Myrobalans, of a dark-brownish Colour, five-cornered, containing more Substance, and a less Stone, than either the following, or the Citron Myrobalan. It is of a rough restraining Taste. *Miller's Bot. Off.*

The Bellerica is thus distinguished;

Myrobalanus Bellerica. *Offic.* Ger. 1316. Emac. 1500. Park. Theat. 247. Raii Hist. 2. 1532. *Myrobalani rotunda Bellericae*. C. B. P. 445. *Myrobalani Bellericae rotundiores*. J. B. 1. 209. BELLERIC MYROBALANS.

This is rounder and smoother than any of the rest of the Myrobalans, somewhat resembling a Gall, but more oblong than having the Appearance of five blunt Ridges. It has a large Stone under a Bark of but little Thickness. *Miller's Bot. Off.*

The Emblica is thus distinguished;

Myrobalanus Emblica. *Offic.* Ger. 1316. Emac. 1500. Park. Theat. 247. Raii Hist. 2. 1531. *Milicanaram*. Hort. Mal. 1. 69. *Myrobalani Emblicae*. C. B. P. 445. *Myrobalani Emblicae in segmentis nucleum habentes angulosae*. J. B. 1. 206. EMBLIC MYROBALANS.

This is a roundish Fruit, somewhat flat at each End, of a black Colour, easily separating into six Parts, containing an hexangular, roundish, white Stone, under a Bark of no great Thickness. *Miller's Bot. Off.*

All these Myrobalans come from *India*, and, according to *Garcias ab Horto*, grow on Trees resembling Plum-trees.

The Citrins are said to purge Cholera, and the Indica Melancholy, and the other three, Phlegm at first, and the Cholera. Whatever they do when they are fresh, they may purge but little when dry, being rather styptic and binding, and are of little Use; and the only official Prescription they are put into, in the new Dispensatory, is the Decoctum Epithymi. *Miller's Bot. Off.*

Geoffroy says, that they purge gently, and strengthen the Intestines at the same time; and, therefore, are very proper in Diarrhoeas and Dysenteries, and make a good Succedaneum for Rhubarb; only the Dose must be larger; and they may, likewise, be very conveniently mixed with Rhubarb.

All the Species of Myrobalans are of a refrigerating, drying, and astringent Quality, as is obvious from their acid and somewhat acrimonious Taste, resembling that of Services. According to *Caspar Hoffman*, they are used in Indispositions of the Eyes, which are easily subject to cold Disorders; they are, also, beneficial in Fallings off of the Hair, and in a Looseness of the Teeth, which, however, they render black. They are esteem'd good against the Want of a due Tone in the Stomach, Liver, and other Viscera; in which Case *Mesue* affirms, that they exhilarate the Body, and preserve it florid and youthful, render the Colour of the Skin agreeable, and communicate a grateful fragrant Odour to the Breath: Sweet Myrobalans are, also, classed among the Purgatives. The Chebule, Belleric, and Emblic Myrobalans purge Phlegm; the yellow Myrobalans, yellow Bile; and the *Indian* Myrobalans, black Bile.

Myrobalans, exhibited in Substance, or by themselves, instead of purging briskly, prove a violent Astringent; and this Effect they produce so much the more, the finer they are powdered, according to *Mesue*; or the longer they are boiled, according to *Melichius*, in his Dispensary; for which Reason they are never exhibited in this manner with an Intention to purge.

They, as well as Rhubarb, are, by some, exhibited, toasted,

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in Dysenteries; and under this Form they purge very little, and are strongly astringent, but much more so when burnt. Infusions of them are more purgative, and less astringent, than Decoctions. The *Indians*, however, as *Garcias* informs us, for purging, use them only in Decoctions, though in larger Doses than those used among us. When preserved, they purge but little, and are of an astringent Quality. When there are large Quantities of them, they may be either preserved recent, or dried, and afterwards moistened; the former are highly active, and the latter of a dull and languid Quality. The Chebule are, also, preferable, to the Emblic Myrobalans: According to *Mesue*, the former, when preserved, corroborate the Stomach, excite an Appetite, promote Digestion, enliven the rational Powers, and quicken the Sight.

There are three Qualities in Myrobalans, which stand in need of Correction; the first is their astringent Virtue, by means of which they produce Obstructions; for which Reason they are not to be exhibited to such as are subject to those Misfortunes. But this Disadvantage is corrected by mixing them with acrid and diuretic Aperients, such as all the Species of fragrant and odoriferous Seeds. Secondly, that Acrimony, by means of which they adhere to the Stomach in such a manner as not to pass into the Intestines, but operate slowly, is to be corrected. Thirdly, that Quality by which they corrugate the Substance of the Stomach and Intestines, is to be corrected. The two last-mentioned Disadvantages attending Myrobalans are to be removed by mixing them, during their Trituration, with unctuous Substances, such as Oil of sweet or bitter Almonds; or, also, by mixing Raisins, or the Cassia Fistula, with them. These are the Sentiments of *Mesue*, collected by *J. Baubine*.

Caspar Hoffman forbids the Use of Myrobalans, even in those Fevers, in which there is no future Obstruction dreaded. He, also, seems to think, that preserved Myrobalans are productive of bad Effects in diary Fevers; and that the Use of them is unsafe in any Case whatever.

As Myrobalans in Substance never purge, Physicians never exhibit them, unless in Conjunction with other Substances, such as the Electuarius Elefchoph, the Hamech Tryphora Perlica, and some others of similar Qualities; and, when they do prescribe them, it is with an Intention to break the Force, and check the Efficacy, of other Purgatives.

Fallopian says, that the highest Dose of the Decoction or Infusion of Myrobalans is four Drams; but he himself never prescribed above two or three. Raii Hist. Plant.

MYRON, *μύρον*. An Ointment, medicated Oil, or Unguent.

MYROPISSOCERON, *μυροπισσόκερον*. The Name of a Topic for an Alopecia, quoted by *Galen*, de Comp. M. S. L. from *Soranus*.

MYRRHA. *Offic.* C. B. P. 501. *Jonf. de Dendr.* 350. J. B. 1. 311. Park. Theat. 1593. Raii Hist. 2. 1841. *Myrrha Troglodytica*. *Offic.* Geoff. Trach. 361. MYRRH.

This is a Gum, which is brought from the *East Indies*, in Lumps of several Magnitudes; the best of a brown or reddish-yellow Colour, somewhat clear, of a fatish resinous Substance, not hard to break, and, when powdered, of a bright-yellow Colour, of an aromatic Smell, and a warm bitterish Taste.

Myrrh, is of an opening, heating, and drying Nature, resists Putrefaction, and is of great Service in uterine Disorders, opening the Obstruction of the Womb, procuring the Menses, expediting the Birth, and expelling the Secundines. It is good, also, for old Coughs and Hoarseness, and the Loss of the Voice; and is very useful against pestilential and infectious Distempers, both taken inwardly, and thrown upon burning Coals, and the Fume received. Outwardly applied, it cures Wounds and Ulcers, and prevents Gangrenes and Mortifications. The Oil, per Deliquium, made with Eggs, is good to take off Freckles, and to clear the Face of Tan and Sun-burn.

Official Preparations are, Tinctura Myrrhae simplex & composita, Trochisci de Myrrha, and Oium Myrrhae per Deliquium. *Miller's Bot. Off.*

Myrrh is brought from *Ethiopia*, and *Arabia Felix*; but we are ignorant of the Tree from which it flows. It is an excellent Stomachic, good in Indigestions, aperient, deobstruent, emmenagogue, astringent, and vulnerary; and is used in Looseness, to destroy the Acrimony of the Humours in the Intestines. Outwardly applied, it is a powerful Resolvent; and the Tincture of Myrrh and Aloes is a good Vulnerary, and prevents Mortifications. Myrrh, put into the White of an hard Egg, in the Place of the Yolk, and laid in a cool Cellar, resolves into an Oil per Deliquium. It is an Ingredient in many Compositions, such as the Emplastrum divinum, Emplastrum sticticum, Theriaca, and the like. It is generally chosen unguated, that is, marked with small white Specks, in the Shape of Nails. The Antients mention a liquid Myrrh, which we are ignorant of; there is, however, some ground to think, that it is an oily Liquor, found in the Body of the Tree; and this was the Myrrh offered by the Magi to our Saviour, because it was very precious, and an Ingredient in the richest Perfumes. *Geoffroy*.

Myrrh is by the *Greeks* called *σμέρρα*, and *μύρρα*; from which the *Latins* have borrowed *Myrrha*, is the *Æolian* Dialect for *σμέρρα*. But the Word *Myrrha* is more probably derived from *μύρρον*, an Ointment. Nothing certain is delivered, either by the Antients or Moderns, with respect to the Tree, which produces the Myrrh. *Theophrastus* affirms, that this Tree, to which he gives the Epithet *Thurifera*, is slender, low, shrubby, with an hard Trunk, crooked and contorted near the Earth, and somewhat thicker than the Calf of a Man's Leg; and that it has a Leaf resembling that of the *Thus*, though aculeated, and not smooth like it. *Dioscorides* affirms, that the Myrrh-producing Tree is like the *Egyptian* Thorn; and *Diadorus* makes the Tree, which produces *Thus*, like to the *Egyptian* Thorn; and compares the Myrrh-producing to the *Maltich-trec*.

Fuchsius is of Opinion, that the Myrrh of the Shops is not genuine, because the Characters of Myrrh, delivered by *Dioscorides*, do not agree to it. *Brassavolus*, and others, take the Myrrh of the Shops for *Bdellium*; and there is such a near Resemblance between these Substances, that the Incautious and Unskilful may, very readily, take the one for the other. *Langius*, and others, affirm, that *Benjamin* is possessed of all the Properties of the best Myrrh. Most Authors condemn the Myrrh of the Shops, and think it is not to be accounted genuine, and of the best Kind. But *John Bauhine*, *Parkinson*, and others, conversant in examining simple Medicines, affirm, that genuine Myrrh is imported to us, though often adulterated with Gum; and answer the Arguments adduced in Opposition to their Opinion.

According to *Galen*, the best Myrrh is that which is clean, rough to the Taste, dry, and friable, smooth, and consisting of small Globules, externally of one Colour, but internally somewhat redish, with whitish Veins running through it; of a fragrant Smell, but of an hot and bitter Taste. According to *Dioscorides*, it must also be recent.

But that Species of Myrrh is preferable to all others, which from the Place, in which it is produced, is called *Troglodyty*, and is of a palish or greenish Colour, shining: And,

As for the several Species of Myrrh, the Frauds of the Merchants, and the different Methods of Adulteration, we have nothing certain concerning them; only *Galen* orders us to beware of using the *Opocarpasum* or *Opocarpasum*, mixed with Myrrh. Now the *Opocarpasum*, according to *Caspar Hoffman*, is the *Indian* Myrrh of *Pliny*, collected from a certain Thorn; for *Pliny* falsely asserts, that Myrrh is adulterated with this Substance. But *Galen* affirms, that the *Opocarpasum* may resemble the best Myrrh; which, however, is not true. The *Opocarpasum* was certainly a poisonous Juice, which produced a deep Sleep, and a sudden Suffocation. And *Galen* affirms, that, in the Course of his Practice, he knew several Patients killed, by inadvertently using Myrrh, mixed with *Opocarpasum*. But of what Plant, Tree, or Herb, this *Opocarpasum* was the Juice, none of the Antients have informed us; and it still remains a Secret to the Moderns. But those who have used the *Opocarpasum*, are relieved by Draughts impregnated with Hemlock.

Myrrh, according to *Dioscorides*, is of an heating and somniferous Quality; though, according to *Caspar Hoffman*, it does not induce Sleep in all Patients, on which Aromatics produce that Effect, but only in such Patients, whose Heads are naturally cold, or otherwise infarcted with Phlegm. But *Cordus* affirms, that the *Stacte*, by means of a certain Heaviness induced on the Senses, procures Sleep. Myrrh is also of a conglutinating, drying, and astringent Quality; but some deny it to be astringent, since it provokes the Menfes, and expels the Fœtus. It softens and opens the Uterus, when shut up. It speedily provokes the Menfes, and expels the Fœtus, when applied with Wormwood, Cream of Lupines, or Juice of Rue. Myrrh is, at present, highly commended by some in difficult Labours; and its sometimes stopping the Menfes, is owing to that Quality, by which it dries and consumes the Serum. A Pill of it, as large as a Bean, is used for inveterate Coughs, Orthopnceas, Pains of the Sides and Thorax, Fluxes, and Dysenteries. But in these Cases, according to *Caspar Hoffman*, it is not beneficial, in consequence of an astringent Quality, which it is by no means possessed of; but by means of its drying up, and digesting, the acrid and corrosive Humours. Myrrh, also, prevents Rigors, preceding febrile Paroxysms, if the Bulk of a Bean of it is drank in Water, with a sufficient Quantity of Pepper. When it is put under the Tongue, and the Juice of it swallow'd, it removes a Roughness of the Arteria Aspera, and an Hoarseness of the Voice. By its Bitterness it kills Worms, and is, by some, chewed for a disagreeable Breath. It is used by way of Ointment, in Conjunction with Liquid Alum, for Pains of the Arm-pits. When incorporated with Wine and Oil, it corroborates the Gums and Teeth. It conglutinates Wounds of the Head, when sprinkled upon them. When mixed up with the Flesh of Snails, it cures Contusions of the Ears, and denudated Bones. When used by way of Ointment, in Conjunction with Poppy-juice, Castor, and Glaucium, it cures Inflammations, and Discharges of Pus from the Ears. When made into an Ointment, with Cassia and Honey, it cures *Pari*; and, when mixed with Vinegar,

removes an Impetigo. An Ointment prepared of Myrrh, Ladanum, Wine, and Oil of Myrtle, prevents the Falling off of the Hairs. It allays long-continued Defluxions from the Head, if applied by way of Ointment, with a Feather to the Nostrils. It fills up Ulcers of the Eyes, and removes those Specks and Asperities, which darken the Pupil of the Eye.

Most of these Effects are produced by the drying and abstergent Quality of Myrrh; for which Reason it was greatly used by the Antients for the Preservation of dead Bodies. But, according to *John Bauhine*, Myrrh is not beneficial to all Patients, since, according to *Galen*, the Smell of it, excites an Head-ach in some Persons, before perfectly sound. And *Galen*, according to *Caspar Hoffman*, 5. *Simpl.* 19. reckons Myrrh among those Substances, which, when liberally used, in consequence of their too great Humidity, render some mad, and destroy others.

Some Moderns affirm, that Myrrh is beneficial in Dropsies; and *Matthiolus*, for that Purpose, orders it to be drank with Agrimony.

Schroder informs us, that, externally applied, it is beneficial in St. Antony's Fire, a Gangrene, Tumors, old and recent Wounds, especially of the Head, for which Reason it is so frequently used in adhesive Plaisters.

The *Bæotian* Myrrh of *Dioscorides*, which he says is the Root of a certain Tree growing in *Bæotia*, is of a drying emollient Nature; and, properly used in Fumigations, is not now known. The *Egyptians* are, at present, said to chew Myrrh in the time of the Plague. *Rai's Hist. Plant.*

STACTE. Offic. J. B. 1. 315. C. B. P. 501. Raii Hist. 2. 1842.

STACTE, according to *Dioscorides*, is only liquid Myrrh: There were two Manners of collecting it among the Antients; for, as *Pliny* would have it, it either flowed spontaneously from the Tree, without an Incision; or it was expressed from the Myrrh, bruised with a moderate Quantity of Water, as we are informed by *Dioscorides* and *Cordus*. It is never found in the Shops. Dale.

TINCTURE OF MYRRH.

Put into a Matrafs of fine Myrrh, in Powder, one Pound; of Spirit of Wine, four Pounds: Invert another Glass into the Mouth of the Matrafs, to make a double Vessel; lute the Juncture, and set it in a gentle Heat of Sand to extract its Tincture.

This has the Virtues of the Gum, but is seldom given inwardly; externally, it is in great Esteem among our Surgeons, for cleansing foul Ulcers, and to exfoliate carious Bones.

ANOTHER TINCTURE OF MYRRH.

Take of Myrrh, half an Ounce; Salt of Tartar, two Drams: Mix them well together, and put them into a moist Place, for a Week; then add to them eight Ounces of rectified Spirits, and draw out the Tincture by a gentle Heat.

The Salt of Tartar is directed to lie with the Myrrh in a moist Place, because the Air dissolves it so into the Body of the Gum, that, when it comes into the Spirit, it much sooner gives its Tincture, than it otherwise would.

COMPOUND TINCTURE OF MYRRH.

Take of the best Aloes, and Myrrh, each an Ounce; French Brandy, a Pound: Digest, and strain for Use.

OIL OF MYRRH.

Half fill a Retort with coarse Myrrh; put it to a Receiver, when in a Sand-furnace; give it Fire, by degrees, to the greatest Height; when the Fumes cease, let out the Fire, and in the Receiver there will be a fetid Oil, and an acid Spirit.

This is reckoned diaphoretic and diuretic, but is seldom prescribed; externally, it brings bad Ulcers to a kind of Suppuration. Its Dose is from eight to twenty-four Drops, in any proper Liquor.

MYRRHINE. The Myrtle. See MYRTUS.

MYRRHIS.

The Characters are;

The Petals are unequal, and is the Seed striated, and resembles the Beak of a Bird.

Boerhaave mentions fifteen Species of this Plant; which are,

1. Myrrhis; perennis; semine striato; alba; major; odorata. *Boerb. Ind. alt.* 69. Myrrhis. Offic. Myrrhis magno semine, longo, sulcato. J. B. 3. 77. Raii Hist. 1. 431. Myrrhis major vel Cicutaria odorata. C. B. P. 160. Tourn. Inst. 315. Myrrhis major vulgaris, sive Cerefolium majus. Park. Theat. 935. Cerefolium magnum sive Myrrhis. Ger. Emac. 1039. SWEET CICELY.

The Leaves of sweet Cicely are large and winged, with several long Pinnæ on each Side; so that they pretty much resemble the Leaves

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Leaves of Fern, of a pleasant aromatic Smell; the Stalks are somewhat hairy, and chanel'd, beset with the like Leaves, but smaller, bearing on their Tops Umbels of white five-leaved Flowers, which are succeeded by pretty large long Seed, deeply furrowed, and having five sharp Ridges. The Root is thick, and spreading with many Fibres. It is sown in Gardens, and flowers in May and June. The Leaves and Seed are used.

This is more a salad Herb than an officinal one; being much of the Nature of Chervil, of hot and thin Parts, and good for cold windy Stomachs; it opens Obstructions of the Liver and Spleen, and provokes Urine. *Miller's Bot. Off.*

The Leaves have some Resemblance to those of Fern, whence it is called by many *Sweet Fern*.

Myrrhis agrees with *Cerfolium*, or Chervil, in Temperament and Virtues. The Root, taken in Wine, cures the Bites of Spiders: It purges Women after Childbirth, and provokes the Menfes. Boiled in Honey, and taken, it is good for a Consumption, and expectorates viscous Humours. The Decoction of it in Wine, taken two or three times in a Day, is a Preservative from the Plague; the Decoction of the Herb and Root is used to provoke Urine; an Extract is, also, made of them against the Pestilence, and the Epilepsy in Children.

The Root of the larger Myrrhis, or *Cicutaria odorata*, C. B. used in a Decoction, or any other Form, is a Cure for malignant Diseases; for which Reason, says *S. Paulus*, I have recourse to it for want of the Root of the Carline-thistle. *Raii H. P.*

2. Myrrhis; annua; semine striato, lævi; tuberosa; nodosa; coniophyllon. *M. U.* 44. *M. H.* 3. 302. *Cicutaria, bulbosa*. C. B. P. 161. *Bulbocastanum, coniophyllum*. *Cam. H.* 31.

3. Myrrhis; perennis; alba; minor; foliis hirsutis; semine striato, aureo. *M. H.* 3. 301. *M. U.* 44. 45. 46. 66.

4. Myrrhis; perennis; alba; minor; foliis hirsutis. *M. H.* 3. 301. *M. U.* 44. 45. 46. 66.

5. Myrrhis; perennis; alba; minor; foliis hirsutissimis. *M. H.* 3. 301. *M. U.* 44. 45. 46. 66.

6. Myrrhis; perennis; alba; folio glabriore, viridiori, splendente.

7. Myrrhis; annua; glabra; alba; minor. *Ind.* 17.

8. Myrrhis; annua; semine striato, lævi. *M. U.* 44. *Chærophyllum sylvestre*. C. B. P. 152. *Apium sylvestre*. *Geim.* 1020.

9. Myrrhis; annua; semine striato, alpero, oblongo; nodosa. *M. U.* 44. 67. *Chærophyllum sylvestre, alterum, geniculis tumen-tibus*. T. 314.

10. Myrrhis; annua; semine striato, villosa, incano. *Tourn. Inst.* 315. *Boerb. Ind. alt.* 69. *Daucus Creticus*. *Offic.* *Daucus Creticus verus*. *Ger.* 874. *Emac.* 1029. *Daucus Creticus verus Dioscoridis*. *Park. Theat.* 896. *Daucus foliis Fœniculi tenuissimis*. C. B. P. 150. *Daucus Creticus semine hirsuto*. J. B. 3. 56. *Raii Hist.* 1. 463. CARROTS OF CREET, or CANDY CARROT.

The true *Daucus* has a pretty long thick Root, from which spring several fine winged Fennel-like Leaves, but having the Segments more thinly set on the Stalks, of a whitish-green Colour: The Stalks grow to be about two Feet high, beset with the like Leaves, and having on the Tops Umbels of small, white, five-leaved Flowers. The Seed is long, slender at both Ends, and swelling in the Middle, covered with a white downy Hoariness, of a pleasant Smell, and a sharp hot Taste: It grows originally in Candy, and other Places in the Levant; and flowers in the Summer.

The Seed only is used, which is warming, aperient, and useful in Disorders of the Kidneys, as Stone and Strangury, provoking Urine, as, also, the Catamenia: It expedites the Birth, and brings away the After-birth: It is, likewise, accounted alexipharmic, and good against the Bites and Stings of venomous Creatures; and is an Ingredient in Theriaca, and Mithridate. *Miller's Bot. Off.*

The Parts in Use are the Seeds, which are oblong, grey, acuminate, hairy, and of a fragrant Smell and Taste: They are of singular Efficacy in uterine Affections, and diuretic. Thus it dissolves Flatulences, and is principally used in Obstructions of the Menfes, Strangulations, and Pains of the Matrix, in the flatulent Colic, Hiccough, Dysury, inveterate Cough, and the like Disorders. *Dale from Schroder.*

11. Myrrhis; Sicula; elatior; tenuioribus foliis. *M. H.* 3. 302. *Chærophyllum, Siculum, foliis Sophiæ, villosa semine*. T. 314. *Daucus, secundus, Siculus, foliis Sophiæ*. Zan. 80.

12. Myrrhis; Orientalis; folio angustiori Peucedani; semine villosa. *Ind.* 17. *Daucus Cretensis verus*. *Lob. Ic.* 1. 722.

13. Myrrhis; trifolia; Canadensis; Angelicæ facie. T. 315. *Angelica Canadensis, trifolia, quorundam*.

14. Myrrhis; folio Angelicæ rugoso hirsuto. *Chærefolium, folio rugoso Angelicæ, aromaticum*. *Bocc. Musc. Tab.* XIX. *Podagraria hirsuta, Angelicæ folio & odore*. *Vaill. Disc.* 44. 45.

15. Myrrhis; foliis Pastinacæ læte virentibus. T. C. 22. *Daucus Pastinacæ folio sic*. Zan. 78. *Boerb. Ind. alt. Plant.*

It takes its Name, especially the first Species of it, from Myrrh, which it resembles in Colour and Foliature, and, also, in Smell: The Seeds are striated, but, if black, they belong to the *Chærophyllum*, or Chervil.

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The first has the Taste of Cloves, is used in Salads, and has the aperitive, exhilarating, diuretic, and demulcent Virtues, of the Clove, and is a very good Antiscorbutic, the expressed Juice being taken in Whey, to the Quantity of some Ounces. A Cataplasm, prepared of the Leaves, is applied to the Perinæum and Os Pubis, for Bruises by Falls, and for Contusions. It is an excellent Remedy, in a Suppression of Urine, from a Spasm of the Bladder, or its Sphincter, and to provoke the Menfes, or discuss Tumors. The other Species have a resolvent, maturating, emollient, and suppurating Quality, and are, therefore, used in maturating Cataplasms. The Seeds are aromatic, and have a very penetrating, inciding Property, and are recommended by *Helmont* for the Stone: They cure, also, flatulent Affections. The first Species is discutient and resolvent, and may be exhibited in the Pleurisy, as, also, in the Peripneumony, with Whey and Honey, in order to resolve the Phlegm: It is, also, proper in hot Distempers, as well as chronic, which, though seeming to imply a Contradiction, is nevertheless true: It potently exhilarates, and is, therefore, exhibited to melancholy Patients in Whey.

The *Chærophyllum Hispanicum veterum* has its Name, which imports exhilarating Leaves, [from χαίρω, to rejoice, and φύλλον, a Leaf] from its Effects. The former Kind, that is, from the first to the fifth, inclusively, have somewhat poisonous, as partaking something of the Nature of the Cicuta; the latter Species, from the sixth to the fourteenth, and especially the ninth and tenth, are commended for their aromatic Quality. The eleventh is not easily distinguish'd from the Cicuta major, or greater Hemlock; it has Tubera, and is, therefore, called *Bulbocastanum*. The ninth and tenth are sold promiscuously in the Shops, under the Title of *Daucus Creticus*; in all these the Taste is the same. The fresh Leaves of the ninth Species, bruised, are made up with Salt and Wine, into the Form of a Cataplasm, which resolves all Kinds of slow and inflammatory Tumors. The Seed is hairy, and an Ingredient in all Antidotes. It is very good for the Stone in the Bladder, as *Helmont* himself, though a Chymist, allows, if an Handful thereof be put into a Barrel of Beer: This Beer, being drank, cures all scorbutic, arthritic, and nephritic Pains, and is, also, good for a Retention of Urine in Children, when it happens, as is often the Case, from Weakness; as, also, for a Cachexy, Phthisis, Asthma, and Epilepsy. *Hist. Plant. adscript. Boerhaav.*

MYRRHIS is, also, a Name for several sorts of CHÆROPHYL-LUM.

MYRRHIS SYLVESTRIS. A Name for the *Caucalis*; sylvestris; folio Chærophylli.

MYRSINATON. The Name of a Plaister, described by *Paulus Aegineta*, Lib. 7. Cap. 17.

MYRSINELÆON. Oil of Myrtles, described by *Dioscorides*, Lib. 1. Cap. 48.

MYRSINITES. An Epithet for Wine impregnated with Myrtle-branches. *Dioscorides*, Lib. 5. Cap. 137.

MYRTIDANON, μυρτίδαρον. By this *Hippocrates* means a round Fruit, or Berry of the Indicum, which the *Persians*, as he tells us, call Pepper. But in *Dioscorides*, Lib. 1. Cap. 156. it is an Excrecence, which grows upon, and embraces the Trunk of the Myrtle; and which is more astringent than the Myrtle itself. *Myrtidanum Vinum* is Wine impregnated with the Berries of the wild Myrtle. *Pliny*, Lib. 14. Cap. 16.

MYRTILLUS. A Name for the *Vitis Idæa*; foliis oblongis, crenatis; fructu nigricante.

MYRTITES. A Composition of Honey, and the Juice of Myrtle-berries.

MYRTOCHEILIDES, μυρτοχειλίδες. A Name for the Nymphæ of the female Pudenda.

MYRTOCISTUS. *Clusius* calls a Species of Axyrum by this Name.

MYRTON, μύρτον. The CLITORIS.

MYKTUS.

The Characters are;

The End of the Pedicle passes into an Ovary, on the upper Extremity of whose Margin grows a short, quinquefid, and stellated Calyx. The Flower is rosaceous, pentapetalous, growing on the Ovary within the Calyx, and furnished with very numerous Stamina. The Ovary, in the Centre of its Apex, bears a small Placenta, whence it shoots forth a long slender Tube, and at last becomes an umbilicated, tricapsular, oblong Fruit, containing a Multitude of Kidney-shaped Seeds.

Boerhaave mentions thirteen Species of this Plant; which are,

1. Myrtus; communis; Italica. C. B. P. 468. *Raii Hist.* 2. 1502. *Tourn. Inst. Boerb. Ind. alt.* 2. 255. *Myrtus*. *Offic.* *Myrtus Bactica sylvestris*. *Ger. Emac.* 1412. *Park. Theat.* 1454. *Myrtus vulgaris nigra & alba, sativa, & sylvestris*. J. B. 1. 510. COMMON MYRTLE.

This is a little Tree or Bush, shooting forth many slender, tough Branches, sometimes brown, and sometimes of a reddish Colour, on which grow small, oblong, sharp-pointed, green Leaves, set alternately on the Stalks, of a very pleasant aromatic Smell; among these come forth the Flowers, each singly on a short Foot-stalk, consisting of five white, round Leaves, full

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full of a great many white Stamina, which being fallen, the Calyx becomes a small round, black Berry, with a small Crown on the Top, as big as a Juniper-berry, full of small, white Seeds. It grows wild in *Italy* and *Spain*, and flowers in *August*; the Leaves are sometimes, but the Berries most generally; used.

They are both of them drying and binding, good for a Diarrhœa or Dysentery, Spitting of Blood, and catarrhus De-fluxions upon the Breast, the Fluor albus, the Falling down of the Womb, or Fundament, both taken inwardly, and used outwardly, in Powders and Injections.

The only officinal Preparation is the Syrupus Myrtinus. *Miller's Bot. Off.*

This Plant is cultivated in some Gardens, and flowers in the Month of *June*; both its Leaves and Berries, which are us'd in the Shops, are of a blackish Colour, of an oblong round Form, of an astringent Taste, and a faint and languid Smell. Both of them are refrigerating, drying, and highly astringent; the Powder of the Leaves, if sprinkled on the Axillæ and Groin, prevents their fetid Smell. These Leaves, if the Body is rub'd with them, stop immoderate and profuse Sweats. They, also, prove beneficial in catarrhus Members, and Fluxes; they are an excellent Defensive in an Herpes, heal Putrefactions of the Mouth, stop Hæmorrhages of the Nose, and cure a Polypus. The Berries mitigate Inflammations of the Eyes; and are beneficial in Luxations of the Joints, and Fractures of the Bones. *Dale from Schroder.*

2. Myrtus; Balsamica; foliis mali Granatæ. *H. L.*

3. Myrtus; foliis odore Nucis Moschatæ, cauliculis rubentibus; vulgo odore Citri. *Schuyl. Cat. Hort.* 49.

4. Myrtus; latifolia; Romana. *C. B. P.* 468.

5. Myrtus; latifolia; Bœtica, secunda; vel foliis Laurinis confertim nascentibus. *C. B. P.* 469.

6. Myrtus; angustifolia, Bœtica, *C. B. P.* 469.

7. Myrtus; flore pleno *Corn.* 203.

8. Myrtus; folio Buxi. *Schuyl. Cat. Hort.* 49.

9. Myrtus; minor; vulgaris. *C. B. P.* 469.

10. Myrtus; minor; foliis ex luteo variegatis. *H. L.*

11. Myrtus; foliis minimis & mucronatis. *C. B. P.* 469.

12. Myrtus; foliis mucronatis, ex albo & viridi variegatis; flosculis rubrocandidis. *H. R. D.*

Myrtus Zeylanica. See VITIS IDÆA. *Boerb. Ind. alt. Pl. it.*

Some derive its Name from *Myrrha*, Myrrh, because it smells like Myrrh; and others will have it so called from an *Athenian* young Woman named *Myrtha*, who was beloved by *Pallas*, and after her Death changed by her into this Tree.

This Tree, as well as all the Myrtles, abounds with oily and balsamic Particles, is sweet-scented, and contains an astringent Juice. In Virtues it is much of the Nature of *Caryophyllata*, or Avens; for which Reason the tender and fresh Leaves may be infused in Water, and taken after the manner of Tea in all those Distempers, for which the *Caryophyllata* is recommended. The Leaves, with the Fruit, or Berries, are used internally and externally, and are all astringent. The Syrup prepared of it, or the Juice of the Berries, are proper in an immoderate Flux of the Menfes and Hæmorrhoids; the Syrup alone is effectual in the Dysentery and Diarrhœa; the Leaves, boiled, and reduc'd to the Form of a Cataplasm, are very successfully apply'd in Luxations; and its Rob is good in all Disorders, which require Refrigeration and Astringency. *Hist. Plant. adscript. Boerhaav.*

MYRTUS BRABANTICA. A Name for the Gale; *Frutex odoratus septentrionalium.*

MYSIS, *μύσις*. See MYCE.

MYSTERION, *μυστήριον*. The Name of an Antidote mentioned by *Galen*, *L. 7. de C. M. S. L. C.* 5

M Y X

MYSTRON, *μύστρον*. An *Attic* Measure for Liquids, containing two *Cochlearia*, and an half. It is equal to one Forty-eighth of a Pint.

MYTIS, *μύτις*. The black Juice which is found in the Mouth of the Sepia or Cuttle-fish. *Galen Exeg.* who also informs us; that it is the Name of a Fish mention'd by *Hippocrates*.

MYTTOTON, *μυττότον*. A kind of *Salmagunda*, made of Garlick, and Onions; sometimes with an Addition of Cheese, Eggs, Oil, and Vinegar. It was esteem'd an ordinary Country-food, and perhaps might be somewhat like what *Virgil* means in the second *Eclogue*, when he says,

Thestylus et rapido fessis messoribus æstu

Allia, serpyllumque, herbas contundit olentes.

MYTULUS. *Offic. Schonef. Ich.* 54. *Bellon. de Aquat.* 397. *Gesn. de Aquat.* 277. *Rondel. de Aquat.* 2. 48. *Mytuli.* *Mer. Pin.* 193. *Mytuli Rondeletii.* *Aldr. de Exang.* 512. *List. Hist. Conch.* 3. n. 200. *Musculus ex cæruleo niger.* *Ejusd. Hist. Animal.* Ang. 182. *Musculus.* *Bonan.* 102. n. 30. THE MUSSEL.

It is taken in our Seas. The Shell is useful in Medicine, and is an alkaline Substance, of the same Virtues with other Shells.

MYURUS, *μύρῡς*. An Epithet for a sort of sinking Pulse, when the second Stroke is less than the first, the third than the second, and so on. Of this there are two Kinds; one when the Pulse sinks so, as never to rise again; the other, when it returns again, and rises in some degree. Both are esteem'd of bad Pre-sage. The Word is derived from *μῡς*, a Mouse, and *ῡρα*, a Tail. But it is sometimes wrote *μειῡς*, and then it seems to have its Derivation from *μειῡν*. Less.

MYXA. *μύξα*. Mucus. But in Botany

MYXA, is a Plant; the Characters of which are,

The Flower is pentapetalous, policeous, and cluster'd. The Ovary in the Bottom of the Calyx becomes a Plum-shaped Fruit, seated within the Calyx, and containing a simple Stone, or else three Capsules, furnished with a long Pedicle, and in each Capsule a Nucleus, or Kernel.

Boerhaave mentions but one Sort of this Plant; which is,

Myxa. *Boerb. Ind. A.* 2. 246. *Sebesten. Offic. Sebestena, Myxa five Myxara.* *Ger.* 1315. *Emac.* 1499. *Sebestina domestica.* *C. B. P.* 446. *Myxas five Sebesten.* *Park. Theat.* 252. *Myxa domestica.* *J. B.* 198. *Prunus Malabarica fructu racemosa, calyce excepto.* *Raii Hist.* 2. 1563. THE SEBESTEN.

This is a sweet Fruit, in Shape like one of our Plums, of a black Colour on the Outside, having a flatish wrinkled Stone: It is the Fruit of a Tree like a Plum-tree, that grows in *Egypt* and *Affyria*, whence they used formerly to be brought; but, for these many Years, they have been quite Strangers to our Shops.

They are accounted cooling and moistening, and useful against sharp, thin Deffluxions upon the Lungs, helping Coughs and Catarrhs, and taking off the Heat of Urine. *Miller's Bot. Off.*

This Plant is produced in *Egypt* and *Asia*, and flourishes in the Spring. Its Fruit, which is the only Part us'd, is ripe in the Autumn, resembles a common Prune, is of a blackish Colour; and under a carnosus, sweet, and honeyish Pulp, includes a Kernel. Sebestens are in an intermediate Degree between Hot and Cold: They, also, moisten, soften, and obtund the Acrimony of the Humours. They are principally us'd in acrid Catarrhs, acrid Urine, bilious Fevers, and Obstructions of the Belly. In a Word, as in Figure, so in Virtues, they resemble Damsons. *Dale from Schroder.*

MYXINOS, *μύξινος*. The Name of a sort of Muller.

MYXORRHOOS, *μύξορροῖος*. Abounding with Mucus.

MYXOSARCOMA. A sort of Tumor; the same as MUCCARNEUS.

MYXOTER, *μύξωτης*. The same as MYCTER; the Nose.